ANDHRA PRADESH POWER GENERATION CORPORATION LIMITED

Dr. NARLA TATARAO THERMAL POWER STATION

IBRAHIMPATNAM, KRISHNA DIST, A.P.

TENDER SPECIFICATION

FOR THE WORK OF

"Dr. NTTPS – Stage-III – Ash Pond – Providing rock toe with graded filters at EL(+)40.00M and Strengthening of Bund No.II with homogeneous soil(gravel) between EL(+)40.00M to EL(+)45.00M from Ch.530M to Ch.1400M"

PART-I
PRE QUALIFICATION & TECHNICAL BID

NOTICE INVITING TENDER (NIT) No: RFx. .

Chief Engineer/Civil/Thermal
5th Floor, VIDYUT SOUDHA, Gunadala
VIJAYAWADA-04, ANDHRA PRADESH

TENDERER

I N D E X

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ANDHRA PRADESH POWER GENERATION CORPORATION LIMITED
VIDYUT SOUDHA :: VIJAYAWADA – 5200 04

Office of the Chief Engineer/Civil/Thermal,
Vidyut Soudha, Vijayawada– 5200 04.

Proc. No.CE /C/Thermal /Dr.NTTPS/ F. Bund No. II /D.No. /2024, Dt. .11.2024

Notice Inviting Tenders (NIT) No: RFx:

1.	Department Name	Andhra Pradesh Power Generation Corporation Limited
2.	Circle/Division Name	Chief Engineer/ Civil/ Thermal/5th floor, Vidyut Soudha/ Vijayawada-520004
3.	Tender Notice No.	**RFx:**
4.	Name of Work	Dr.NTTPS **-** Stage-III – Ash Pond – Providing rock toe with graded filters at EL(+)40.00M and Strengthening of Bund No.II with homogeneous soil(gravel) between EL(+)40.00M to EL(+)45.00M from Ch.530M to Ch.1400M
5.	Estimated Contract Value (Approximate)	1,97,63,605.79 (Rupees One crore ninety seven lakhs sixty three thousand six hundred five and paise seventy nine only).
6.	Period of Contract	09 (Nine) Months
7.	Form of Contract	
8.	Tender Type	Open
9.	Tender Category	Works
10.	Bid Security (EMD)	**For Non-PEMD holders:** **Rs. 4,95,275/-** in the shape of DD/BC/Pay Order. **(OR)** **Rs.1,00,000/-**in the shape of DD/BC/Pay Order and **Rs. 3,95,275/-** as Bank Guarantee/DD/BC/ Pay Order/ Insurance Surety Bond. **For PEMD holders (Who have Rs.5.00 Lakhs PEMD with APGENCO) :** (Copy of PEMD approval letter from APGENCO shall be furnished) **Rs. 1,00,000/-** by way of DD/BC/Pay Order.
11.	Bid Security Payable to	DD / BC / PO shall be drawn on any Nationalized / Scheduled Banks in favour of Pay Officer/APGENCO, Vidyut Soudha, Vijayawada-520004 and Bank Guarantee/ Insurance Surety Bond shall be in favour of Chief Engineer/ Civil / Thermal/ Vidyut Soudha/ Vijayawada-520004.) from any Nationalized/Schedule Banks / Insurance surety bond issued as per IRDAI guidelines. The validity of B.G. shall be for a period of 270 days from the date of opening of pre-qualification bid with a further claim period of 6 months.
12.	Process Fee	Not Applicable
13.	Schedule Available Date & Time	-12-2024, 5.00 P.M.
14.	Schedule Closing Date &Time	-12-2024, 4.30 P.M.
15.	Bid Submission closing	-12-2024, 5.00 P.M.

TENDERER

	Date & time	
16.	Bid Submission	Online
17.	Bid Validity	180 days from the date of opening of the PQB.
18.	Pre Bid Meeting	Not Applicable
19.	Pre Qualification/ Technical Bid Opening Date (Qualification and Eligibility Stage)	-12-2024, 3.00 PM
20.	Technical Specifications Bid Opening Date (Technical Bid Stage)	Not Applicable
21.	Price Bid Opening Date & Time	-12-2024, 3.00 PM
22.	Eligibility Criteria	**Registration and Similar works:** **a. Registration:-** The Bidder shall be a registered as Civil Class-I & above contractors in State/ Central Govt./ State or Central PSU having experience in similar nature of works. **b. Similar Works:-** The Bidder should have executed similar works of value not less than **Rs. 0.98 Crore** in any one year during the last five financial years i.e., **2019-2020 to 2023-24**. **c. Prime Quantities:** The bidder should have executed the following minimum quantities in any one year during the last five financial years i.e from **2019-2020 to 2023-24** (i) Horizontal sand blanket/vertical sand chimney = 1,800 Cum (ii) Construction of embankment with homogeneous soil = 5,000 Cum (iii) Rock toe/Revetment/Soling = 185 Cum (iv) Graded metal filter media = 450 Cum (v) Earth work Excavation = 1,900 Cum **The quantities of experience shall be executed as a prime contractor in state/ central Govt & PSUs only will be considered.** **No other clauses and sub-clauses/conditions of G.O.Ms.No. 94, Dt. 01.07.2003 are applicable for calculating eligibility criteria other than the prescribed /stipulated for eligibility criteria/conditions for this work as per NIT. The tenderer should upload only attested experience certificates. The experience certificates should clearly indicate financial year wise break up for value of work done along with quantities of various items of similar works executed as mentioned above executed. Experience certificates without these details will not be accepted and the tender will be considered as incomplete.** **d. Liquid asset/credit facilities/Solvency certificate:** Liquid asset/credit facilities/Solvency certificate (not older than 12 months from the date of availability of tender specification on APGENCO e-procurement platform) issued by any Indian Nationalized Bank or scheduled bank for a value not less than **Rs. 0.66 Crores**. (or)

		The Solvency Certificate/Net Worth Certificate for a value not less than **Rs. 0.66 Crores *in lieu of Solvency Certificate issued by the Chartered Accountant shall not be older than 12 months from the date of availability of tender specification on APGENCO e-procurement platform.*** The statement showing the value of existing commitments and ongoing works if any as well as the stipulated period for completion of the remaining work for each of works listed, issued by the Engineer-in-charge or equivalent of the concerned department shall be uploaded, and the bidder shall furnish the particulars invariably in the same format failing which the tender shall be treated as incomplete and summarily rejected. **Responsibility for correctness of the information submitted in the online bid lies with bidder. <u>If any information furnished in the bid is proved to be false at a later date, the bid will not only be rejected but also the bidder will be BLACKLISTED.</u>**
23.	Place of Opening of Tenders	In the chambers of Superintending Engineer/ Civil/ Thermal, 5th floor, Vidyut Soudha, Gunadala, Vijayawada – 520004.
24.	Officer Inviting Bids	Chief Engineer/ Civil/ Thermalm, 5th floor, Vidyut Soudha, Gunadala, Vijayawada – 520004.
25.	Address	Chief Engineer/ Civil/Thermal, 5th floor, Vidyut Soudha, Gunadala, Vijayawada – 520004.
26.	Contact Details	Chief Engineer/ Civil/ Thermal, 5th floor, Vidyut Soudha, Gunadala, Vijayawada – 520004. Phone: 0866-2526416, 0866-2526813, 0866-2526425
27.	Procedure for bid submission	a. The tender should be in the prescribed forms which can be obtained from APGENCO 'e' procurement platform from the date of electronic publication up to the time and date indicated in the tender notice. The intending bidders shall enroll themselves on the 'e' procurement market place https://etender.apgenco.gov.in/irj/portal.Those contractors who register themselves in the APGENCO e-procurement market place can download the tender schedules free of cost. The bidder shall authenticate the bid with his digital certificate for submitting the bid electronically on APGENCO e- procurement platform. b. Intending bidders can contact office of the Chief Engineer/ Civil/ Thermal/ APGENCO/North East Corner, 5th floor, Vidyut Soudha, Gunadala, Vijayawada – 520004 for any clarification / information on any working day during working hours. c. The bidders who are desirous of participating in APGENCO e- procurement shall submit their bids etc., in the standard formats prescribed in the tender documents, displayed at APGENCO "e" procurement platform. The bidders should invariably upload the statement showing the list of documents etc., in the "e" market place in support of their work experience. The bidder should load scanned copies of all relevant certificates. The bidder shall

		sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness/ authenticity. d. Bid evaluation of the tenders would be done on the Certificates/ documents uploaded on APGENCO "e" procurement platform towards qualification criteria furnished by them.
28.	Statutory Requirements	The Tenderer shall fulfill the following statutory requirements. a. **Income tax Clearance Certificate:** The contractor shall furnish copy of Permanent Account number (PAN) card and copy of latest income tax returns submitted along with the proof of receipt. b **EPF, ESI & GST:** The contractor shall comply with the statutory labor rules and regulations i.e. EPF, ESI, & GST etc as may be as applicable and shall furnish the returns and information as may be specified from time to time. Purchase Order will not be issued without above statutory norms.
29.	Documents to be submitted (Hard copies) to the Tender inviting authority	a. All the bidders shall invariably upload the scanned copy of DD/BC/PO and BG in APGENCO e-procurement system and this will be the primary requirement to consider the bid responsive. b. The Department shall carryout the bid evaluation solely based on the uploaded certificates/ documents, DD/BC/PO and BG towards EMD in the APGENCO e-procurement system. c. The department will notify the successful bidder for submission of original hardcopies of all the uploaded documents, DD/BC/PO and BG towards EMD before issue of Letter of Intent. d. The successful bidder shall invariably furnish the original DD/BC/PO and BG towards EMD, certificates/ documents of the uploaded scan copies such as Firm registration, Labour license, Solvency certificate, EPF, ESI & GST registration certificates and PEMD etc., to the Tender Inviting Authority on intimation of date before issue of Letter of intent either personally or through courier or post and the receipt of the same within the stipulated date shall be the responsibility of the successful bidder. The department will not take any responsibility for any delay in receipt/ non-receipt of original DD/BC/PO and BG towards EMD, certificates/ documents from the successful bidder before the stipulated time. On receipt of documents, the department shall ensure the genuinity of the BG towards EMD and all other certificates/documents uploaded by the bidder in APGENCO e-procurement system in support of the qualification criteria before issue of Letter of Intent. e. If any successful bidder fails to submit the original hard copies of uploaded certificates/ documents, DD/BC/PO and BG towards EMD within stipulated time or if any variation is

		noticed between the uploaded documents and the hardcopies submitted by the bidder, the successful bidder will be suspended from participating in the tenders on APGENCO e-procurement platform for a period of 3 years. The APGENCO e-procurement system would deactivate the user ID of such defaulting bidder based on the trigger/ recommendation by the Tender Inviting Authority in the system. Besides this, the Department shall invoke all processes of law including criminal prosecution of such defaulting bidder as an act of extreme deterrence to avoid delays in the tender process for execution of the work. Other conditions as per tender document are applicable. The bidder is requested to get a confirmed acknowledgement from the Tender Inviting Authority a proof of Hardcopies submission to avoid any discrepancy. The tenderer is liable to be disqualified, if he is found to have mislead or furnished false information in the forms/ statements/ certificates submitted in proof of qualification requirements and record of performance such as abandoning of work, not properly completing earlier contracts, inordinate delay in completion of works, litigation history, financial failures and/ or participated in the previous tendering for the same work and has quoted unreasonable high price etc. Even while executing the work, if found that the contractor had produced false/ fake certificates, he will be black listed and the contract will be terminated and his Bid security and security deposit will be forfeited and work will be carried out through other agency at his cost and risk. **The tenderer shall furnish the declaration that:** i. They have not been black listed in any Department due to any reasons. ii. They have not been demoted to lower category in any Department for not filing the tenders after buying the tender schedules in a whole year and their registration had not been cancelled for a similar default in two consecutive years. iii. They will agree to get disqualified themselves for any wrong declaration in respect of the above and get their tender summarily rejected. iv. The soft copies uploaded by them are genuine. Any incorrectness/ deviation noticed can be viewed seriously and apart from canceling the work duly forfeiting the bid security, criminal action can be initiated including suspension of business and/ or black listing.

TENDERER

30.	Other relevant information	1. Please go through the detailed tender conditions and rules in **APGENCO** e-procurement platform for TENDER procedure. 2. APGENCO reserves the right to reject any or all the tenders without assigning any reasons there of. 3. APGENCO reserves the right to amend or modify the tender and its conditions. 4. Any other condition regarding receipt of tenders in conventional method appearing in the tender documents may please be treated as not applicable. 5. The tenderers have to upload the information preferably in Zip format. 6. The contractors should upload the documents duly signing each and every paper. 7. For all clarifications & guidance, the bidders may contact the Chief Engineer/Civil/Thermal/APGENCO, 5th floor, Vidyut Soudha, Gunadala, Vijayawada – 520004.

CHIEF ENGINEER/CIVIL/THERMAL

TENDERER

PRE-QUALIFICATION BID

FOR THE WORK OF

Dr. NTTPS – Stage III - Ash pond - Providing rock toe with graded filters at EL(+) 40.00M and Strengthening of Bund No.II with homogeneous soil (gravel) between EL(+)40.00 M to EL(+) 45.00 M from Ch.530 M to Ch.1400 M

1. The work of **"Dr. NTTPS – Stage III - Ash pond - Providing rock toe with graded filters at EL(+) 40.00M and Strengthening of Bund No.II with homogeneous soil (gravel) between EL(+)40.00 M to EL(+) 45.00 M from Ch.530 M to Ch.1400 M"** is to be executed under this contract and to complete strictly as per the programme given in the specification. No extension of time beyond contract period stipulated in the specification can be given under this contract except for reasons contributing to the delay for which the contractor is not responsible.

2. **Eligibility Criteria:**

a) **Registration:**

The Bidder shall be a registered as Civil Class-I & above & above contractors in State/ Central Govt./ State or Central PSU having experience in similar nature of works.

b**)** **Similar Works:-** The Bidder should have executed similar works of value not less than **Rs. 0.98 Crore** in any one year during the last five financial years i.e., **2019-2020 to 2023-24**.

c) Prime Quantities: The bidder should have executed the following minimum quantities in any one year during the last five financial years i.e from **2019-2020 to 2023-24**

(i) Horizontal sand blanket/vertical sand chimney	= 1,800 Cum
(ii) Construction of embankment with homogeneous soil	= 5,000 Cum
(iii) Rock toe/Revetment/Soling	= 185 Cum
(iv) Graded metal filter media	= 450 Cum
(v) Earth work Excavation	= 1,900 Cum

d)Solvency: Liquid asset/credit facilities/Solvency certificate (not older than 12 months from the date of availability of tender specification on APGENCO e-procurement platform) issued by any Indian Nationalized Bank or scheduled bank for a value not less than **Rs. 0.66 Crores**. (or)

The Solvency Certificate/Net Worth Certificate for a value not less than **Rs. 0.66 Crores** ***in lieu of Solvency Certificate issued by the Chartered Accountant shall not be older than 12 months from the date of availability of tender specification on APGENCO e-procurement platform.***

3. **General Terms & Conditions:**

To qualify for consideration of award of contract each tenderer should fulfill the following criteria.

i) The details and certificates are to be furnished as per NIT and tender specification. The details of similar value of work and prime quantities shall contain year wise details.

TENDERER

ii) The bidder is subjected to be disqualified and liable for black listing and forfeiture of EMD if he is found to have misled or furnished false information in the forms/ statements/ certificates submitted in proof of qualification requirements.

iii) Even while execution of work, if found that the contractor had produced false/ fake certificates of experience he will be liable for black listing and the contract will be liable for termination and liable for forfeiture of EMD and all the amounts due to him.

iv. Time is the essence of the contract. Those bidders who can complete the work within 09 (Nine) months only can tender for the work.

4. The bidders shall upload copy of registration certificate (Registered with Central/ State Govt. Departments or Central/ State Govt. undertakings), copy of solvency certificate (latest from Nationalized Banks/Scheduled Bank and other relevant particulars. The tenderer shall also upload copies of certificates of Registration of EPF, ESI, GST and latest Income Tax statements etc., All the certificates/enclosures shall be attested by a Gazetted officer.

5. **APGENCO does not entertain any request for advance payment for the work.**

6. In opening the tenders, the Part-I i.e., Pre-qualification Bid will be opened first. Only those tenders which contain the full information and which comply with the requirements regarding technical and financial qualifications, experience and equipment etc., will qualify for opening of Part-II i.e., Price Bid. **In this regard, the decision of APGENCO is final.**

7. The percentage on ECV quoted by the tenderer in Part -II i.e., Price Bid shall be firm till the completion of work.

8. Part -II i.e., Price Bid, in respect of qualified tenderers only will be opened on the dates notified.

9. The bidders should invariably upload the statement showing the list of documents etc., in the "e" market place in support of their Technical bids. The bidder should load scanned copies of all relevant certificates. The bidder shall sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness / authenticity. The Department shall carry out the technical bid evaluation solely based on the uploaded documents, BG towards EMD in the e-procurement system and open the price bids of the responsive bidders. The Department will notify the successful bidder for submission of original hard copies of all uploaded documents, BG towards EMD prior to issue of LOI. In respect of construction equipment available with contractor, he must indicate which of the available equipment he proposes to mobilize for the work. The details of the owner ship of equipment are also to be furnished in Pre-qualification Bid. Statements that the contractor will hire the equipment from other agencies after award of work will not be entertained and such tenders are liable to be rejected.

TENDER FORM

To

The Chief Engineer/Civil/Thermal,
A.P.GENCO, Vidyut Soudha,
Hyderabad - 500 082.

Sir,

I/We do hereby tender and, if this tender be accepted undertake to execute the work of **"Dr.NTTPS - Stage-III – Ash Pond – Providing rock toe with graded filters at EL(+)40.00M and Strengthening of Bund No.II with homogeneous soil(gravel) between EL(+)40.00M to EL(+)45.00M from Ch.530M to Ch.1400M"** as shown in the drawings and as described in the specifications deposited in the office of the ***Chief Engineer/Civil/Thermal***, **APGENCO**, Vidyut Soudha, Gunadala, Vijayawada - 500 004, with such variations by way of, alterations or additions to, and omissions from the said work and method of payment as are provided for in the "conditions of Contract".

I/We agree to execute the work when the lump sum payment under the terms of agreement is varied by payment on measurement quantities.

I/We agree to keep the offer in this tender valid for a period of 180 days from the date of opening of tender and not to modify the whole or any part of it for any reason within the above period. If the tender is withdrawn by me/us for any reason whatsoever within the validity period, the Earnest money deposited by me/us will be forfeited to APGENCO.

I/We hereby distinctly and expressly declare and acknowledge that before the submission of my/our tender, I/We have carefully followed the instructions in the tender notice and have read the APSS and the Preliminary specifications therein and the APSS Addenda volume; and that I/We have made such examination of the contract documents and of the plan, specifications and quantities, and of the locations where the said work is to be done, and such investigation of the work required to be done, and in regard to the materials required to be furnished so as to enable me/us to thoroughly understand the intention of the same and the requirements, covenants, agreements, stipulations and restrictions contained in the contract and in the said plans and specifications and distinctly agree that I/We will not hereafter make any claim or demand upon the APGENCO based upon or arising out of any alleged misunderstanding or misconception or mistake on my/our part of the said requirements, covenants, agreements, stipulations restrictions and conditions.

If my/our tender is not accepted, the EMD paid along with application shall be returned to me/us on my/our application when intimation is sent to me/us of rejection or at the expiration of 180 days from the date of this tender which ever is earlier. If my/our tender is accepted, the earnest money shall be retained by the APGENCO as security for the due fulfillment of this contract. If upon written intimation to me/us by the Chief Engineer/Civil/Thermal/ APGENCO, I/We fail to attend the said office before the end of the period specified on such intimation the tender will not be considered and if, upon intimation being given to me/us by the Chief Engineer/Civil/Thermal of acceptance of my/our tender, I/We fail to make the additional security deposit or to enter into the required agreement as defined **in clause 6 of the detailed tender conditions**, then I/We agree to the forfeiture of the Earnest money; Any notice required to be served on me/us here under shall be sufficiently served on me / us personally or forwarded to me/us by post (registered or ordinary) or left at my/our address given herein. Such notice if sent by post be deemed to have been served on me/us at the time when in due course of post, it would have been delivered at the address to which it was sent.

TENDERER

I/We fully understand that the written agreement to be entered into between me/us and the APGENCO shall be the foundation of the rights of both of the parties and the contract shall not be deemed to be completed until the agreement has first been signed by me/us and then by proper officer authorized to enter into contracts on behalf of APGENCO.

I/We am/are professionally qualified and my/our qualifications are given below.

SI. No	***NAME***	***QUALIFICATIONS***

I/We will employ at my/our own cost at least One Project Manager, Two Graduate Engineers and Two Diploma Engineers on the work on full time basis and see that they are available at work site during working hours and also whenever required by the Engineer-in-Charge to take instructions and for arranging efficient and expeditious execution of work to the satisfaction of the Engineer in charge. In case, I/We fail to employ the above mentioned technical staff, I am/We are agreeable for the recovery towards such default to be made from my/our bills at the rate of Rs. 1,17,000/- (Rupees One lakh and seventeen thousand only) per month or part thereof.

The A.P.GENCO directs that in the case of both Lumpsum and K2 contract of Rs. 50,000 and above in value, the contractor irrespective of his class shall be required to employ the personnel as follows on the concerned works at his own cost whether technical skill is required or not.

Cost of Work	**Scale of Technical staff**
From Rs.50,000/- to Rs.1.00 lakh	One I.T.I. Candidate
between Rs.1.00 lakh & Rs.5.00 lakhs	One diploma holder
between Rs.5.00 lakhs & Rs.15.00 lakhs	One Graduate Engineer (or) Two Diploma holders
between Rs.15.00 lakhs to Rs.25.00 lakhs	One Graduate Engineer and One Diploma holder
Above 25,00 lakhs	Two Graduate Engineers and Two Diploma holders.

The appointment of staff shall be on full time basis and they shall be available at the work site whenever required by the Engineer-in-charge to take instructions. The contractor shall deploy required technical personal in addition to the above as per actual needs and as directed by the Engineer-in-charge.

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In case of failure of the contractor to employ technical Staff as above, the recovery shall be made from his bill at the following rates.

Cost of Work	**Rate of recovery per month**
between Rs. 50,000 and Rs. 1.00 lakhs	Rs. 18,450/-
between Rs. 1.00 lakh & Rs.5.00 lakhs	Rs. 25,500/-
between Rs. 5.00 lakhs and Rs. 15.00 lakhs	Rs. 33,000/-
between Rs. 15.00 lakhs to Rs. 25.00 lakhs	Rs. 58,500/-
above Rs.25.00lakhs	Rs. 1,17,000/-

I/We have accepted the rate of progress i.e., the construction programme for the work as envisaged in this tender specification.

Yours faithfully

TENDERER

DETAILED TENDER NOTICE

The tender the work *of* **" Dr.NTTPS - Stage-III – Ash Pond – Providing rock toe with graded filters at EL(+)40.00M and Strengthening of Bund No.II with homogeneous soil(gravel) between EL(+)40.00M to EL(+)45.00M from Ch.530M to Ch.1400M**"should be in the prescribed forms which can be obtained from 'e' procurement platform from the date of electronic publication up to the time and date indicated in the tender notice. The intending bidders shall enroll themselves on the 'e' procurement market-place www.eprocurement.gov.in. Those contractors who register themselves in the 'e' procurement market place can download the tender schedules free of cost. The bidder shall authenticate the bid with his digital certificate for submitting the bid electronically on e- procurement platform **and the bids not authenticated by digital certificate of the bidder will not be accepted on the e-procurement platform** following the G.O.Ms.No.6, I.T&C Department, dated. 28-2-2005.

The intending bidders can download tender specification and submit their tenders online at APGENCO e-procurement market place viz place viz., http://etender.apgenco.gov.in/irj/portal. **The tender forms can be downloaded up to 4.30 pm on -12-2024. Bids can be submitted up to 5-00 pm on -12-2024.**

The tenders will be opened through APGENCO e-procurement platform by the ***Superintending Engineer/Civil/Thermal*** **on -12-2024 at 3.00 P.M** in his chambers, Vidyut Soudha, Gunadala, Vijayawada - 520004. If the tender opening day happens to be a holiday the tenders will be opened at the same timings mentioned above on the next working day. The tenderers or their authorized agents are expected to be present at the time of opening of tenders.

Intending bidders can contact office of the Chief Engineer/Civil/Thermal/APGENCO/ Vidyut Soudha, Gunadala, Vijayawada for any clarification / information on any working day during working hours.

The bidders who are desirous of participating in e- procurement shall submit their technical bids, price bids etc., in the standard formats prescribed in the tender documents, displayed at "e" market place. The bidders should invariably upload the statement showing the list of documents etc., in the "e" market place in support of their Technical bids. The bidder should load scanned copies of all relevant certificates. The bidder shall sign on all the statements, documents, certificates, uploaded by him, owning responsibility for their correctness / authenticity. **Responsibility for correctness of the information submitted in the online bid lies with bidder. If any information furnished in the bid is proved to be false at a later date, the bid will not only be rejected but the bidder will be BLACKLISTED**

The Bidder shall authenticate the bid with his digital certificate for submitting the bid electronically on APGENCO e-procurement Platform and the bids not authenticated by Digital certificate of the bidder will not be accepted on the APGENCO e-procurement platform

The Department shall carry out the technical bid evaluation solely based on the uploaded documents, DD/BC towards EMD in the APGENCO e-procurement system and open the price bids of the responsive bidders.

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The Department will notify the successful bidder for submission of original hard copies of all uploaded documents, DD/BC towards EMD prior to issue of LOI.

The successful bidder shall invariably furnish the original DD/BC towards EMD, Certificates/documents of the uploaded scanned copies to the Tender Inviting Authority before stipulated time given to him either personally or through courier or post and the receipt of the same within the stipulated date shall be the responsibility of the successful bidder. The Department will not take any responsibility for any delay in receipt/non-receipt of original DD/BC towards EMD, certificates/documents, from successful bidder before the stipulated time. On receipt of documents, the Department shall ensure the genuinity of the DD/BC towards EMD and all other certificates/documents uploaded by the bidder in APGENCO e-procurement system in support of the qualification criteria before issue of LOI.

If any successful bidder fails to submit the original hard copies of uploaded certificates/documents, DD/BC towards EMD within the stipulated time or if any variation is noticed between the uploaded documents and the hard copies submitted by the bidder, the successful bidder will be suspended from participating in the tenders on APGENCO e-procurement platform for a period of 3 years. The APGENCO e-procurement system would deactivate the user ID of such defaulting successful bidder based on the trigger/recommendation by the Tender Inviting Authority in the system. Besides this, the department shall invoke all processes of law including criminal prosecution of such defaulting bidder as an act of extreme of the deterrence to avoid delays in the tender process for execution of the development schemes taken up by the Government.

3.0 The bidder has to furnish the following statutory requirements along with the bid.

a) Income tax Clearance Certificate:

The contractor shall furnish their copy of permanent Account Number (PAN) card and copy of latest income tax returns submitted along with the proof of receipt.

b) Statutory Requirements:

The contractor shall comply with the statutory labour rules and regulations i.e., EPF, ESI etc., as may be applicable by the date of tendering for the work and shall furnish the returns and information as may be specified from time to time. Undertakings by the contractors for submission of statutory requirements in due course or before concluding agreement is not acceptable and bid will not be considered for evaluation. The contractor who has not met above statutory requirements will be disqualified.

1. Each tenderer shall invariably furnish the required registration, experience certificates, Solvency and insurance coverage for the workmen. In case of proprietary or partnership firm, it will be necessary to produce the certificates afore mentioned for the proprietor or proprietors and for each of the partners, as the case may be.

4. **Earnest Money Deposit**

Each bidder must pay Earnest Money Deposit for a minimum amount of **Rs. 4,95,275**/- (Rupees Four lakhs, ninety five thousand two hundred and seventy five only) by way of DD/BC/PayOfficer **(OR) Rs.1,00,000/-**in the shape of DD/BC/Pay Order and **Rs. 3,95,275/-** as Bank Guarantee/DD /BC/ Pay Order/ Insurance Surety Bond. BG in the proforma mentioned vide pages 69-70 of the

specification. BG shall be drawn on nationalized bank in favour of Pay Officer, APGENCO, Vidyut Soudha, Gunadala, Vijayawada-04 payable at Vijayawada. The EMD will not be received in cash. While furnishing the bids online the bidders have to furnish a soft copy of the BG while uploading the tender. However, the Department will notify the successful bidder for submission of original hard copy of BG towards EMD prior to issue of LOI.

5. When a tender is to be accepted, the tenderer whose tender is under consideration shall, attend the office of the Chief Engineer/Civil/Thermal/APGENCO, before the end of the period specified by written intimation to him. If the tenderer fails to attend the office before the end of the period specified, his tender will not be considered. He shall forthwith upon intimation being given to him by the Chief Engineer/Civil/Thermal/APGENCO of acceptance of his tender, attend the office of the Superintending Engineer/Civil/O&M/VTPS/ Ibrahimpatnam-521 456, A.P., in-charge of work and sign an agreement in the proper departmental form for the due fulfillment of the contract. The contractor is bound by the specifications of APSS.

5.1 In addition to the EMD, the balance amount of total up to 5% of the value of Contract shall be paid as security deposit in case of successful tenderer by way of Bank Guarantee from Nationalized Bank approved by APGENCO as per proforma appended at the time of entering into the agreement. The above security deposit shall be furnished within fifteen days (15) from date of receipt of award of work. Further 5% of the value of work done will be recovered from the running bills for the due fulfillment of the contract.

Security Deposit (including EMD) and retention amount will be refunded to the contractor after satisfactory completion of 24 months performance guarantee period as all defects shall have been made good according to the true intent and meaning thereof. This amount will not bear any interest.

5.2 Failure to enter into the required agreement or to make the security deposit as defined in the above paragraphs shall entail forfeiture of the earnest money deposit. The written agreement to be entered into between the contractor and the APGENCO shall be the foundation of the rights of both the parties and the contract shall not be deemed to be completed until the agreement has first been signed by the contractor and then by the proper officer authorized to enter into contracts on behalf of APGENCO.

5.3 The work shall commence from the dates specified by the APGENCO otherwise EMD will be forfeited.

If the successful tenderer fails to sign the agreement or otherwise commit default, the APGENCO shall have the right to recover damages according to law apart from forfeiting the earnest money deposit.

6. The tenderer shall examine closely the APSS and also the standard preliminary specifications contained therein, and sign the Division office copy of the APSS and its addenda volume in token of such study before submitting his tender offer. Percentage which shall be for finished works in-situ. He shall also carefully study the drawings and additional specifications and all the documents which form part of the P.O to be signed by the Tenderer. The APSS and other documents connected with the contract such as specifications, plans descriptive specification sheet regarding materials etc., can be seen at any time between 11.00A.M.and 5-00 P.M. on all working days in the office of the Chief Engineer/ Civil/Thermal APGENCO, Vidyut Soudha, Gunadala, Vijayawada - 04.

7. The tenderer's attention is directed to the requirements for materials under the clause `Materials and Workmanship' in the `Preliminary Specifications. Materials conforming to the ISS shall be used on the work, and the tenderer shall quote his percentage accordingly.

TENDERER

8. Every tenderer is expected, before quoting his **percentage less/excess on ECV value on the estimated rates**, to inspect the site of the proposed work. He should also inspect the quarries and satisfy himself about the quality and availability of materials. The names of quarries etc., where from certain materials are to be obtained are given in the descriptive specification sheet or Schedule'C'. The best class of materials to be obtained from the quarries or other source defined shall be used on the work. In every case, the materials must comply with relevant standard specification. Samples of materials as called for in the standard specifications or in these tender conditions, or as required by the Executive Engineer, in any case shall be submitted for the Executive Engineer's approval before the supply to site of work is begun. If the contractor, after examination of the source of materials defined in the descriptive specification sheet is of opinion that materials complying with the standard specifications of the contract cannot be obtained in quality or sufficient quantity from the source defined in the descriptive specification sheet, he shall so state clearly in his tender that where from he intends to obtain materials subject to the approval of the officer authorized by the APGENCO.

If further necessary information is required, the Engineer in-charge or Superintending Engineer/Civil/ O&M/VTPS will furnish such information.

The APGENCO will not however, after acceptance of a contract rate, pay any extra charge for lead or for any other reason, in case the contractor is found later on to have misjudged the materials availability. Attention of the tenderer is directed to the standard preliminary specifications regarding payment of Seignorage, tolls etc

9. The tenderer's particular attention is also drawn to the sections and clauses in the standard preliminary specifications dealing with:

1. Test, inspection and rejection of defective materials and work:
2. Carriage:
3. Construction plant:
4. Clearing up during progress and for delivery:
5. Accidents:
6. Delays:
7. Particulars of payment:

The contractor should closely peruse all the specifications, clauses which govern the percentage which he is tendering.

10. A bill of quantities (Schedule-A) accompanies in this tender schedule. It shall be definitely understood that the APGENCO does not accept any responsibility for the correctness or completeness of this schedule and that this schedule is liable to alterations omissions, deductions, or additions at the discretion of the Executive Engineer in-charge or as set forth in the conditions of contract. The tenderer will, however, base his lump sum tender on this schedule of quantities. The estimated rates by the department for each item are furnished in the schedule.

The bidder shall quote excess or less on estimated contract value (ECV). The bids of bidders who quoted more than 10% on estimated contract value will be rejected.

TENDERER

11. No alteration which is made by the tenderer in the contract form, the conditions of contract, drawings, specifications or quantities accompanying the tender will be recognized and if any alternations are made, the tender will be considered void.

12. Price variation:- No price variation will be allowed for materials and labour. The excess or less percentage over the Estimated contract value (ECV) quoted by the contractor shall be firm and binding upon the contractor till the work is completed. The quoted percentage less/excess on ECV value shall be binding on the tenderer even for award of part work.

13. ISSUE OF CEMENT & REINFORCEMENT STEEL AT FREE OF COST TO THE CONTRACTOR AT SITE STORES

(I) The tenderers shall quote their rates excluding the cost of cement & steel as these materials will be issued free of cost to the work from APGENCO as detailed in Scheduled B in the project site.

(II) The contractor shall use the materials issued by APGENCO exclusively for execution of works as per the drawings and specifications under the contract. The quantity of cement and reinforcement steel materials shall include the allowable wastages, if any, as per specification. Excess consumption, if any, over and above such quantities will be charged to the contractor at the rates specified below:

a. Cement

Description	Rates of Recovery
i. Normal consumption without considering any wastage or loss as per drawings and specifications.	Free
ii. Excess consumption up to 3% on (i) above for bonafied use (All surplus cement including sweep cement is to be returned by the Contractor to APGENCO).	Cost of cement as per prevailing market rate at the time of issue
iii. Excess consumption beyond (ii) above.	2 times the rate indicated at (ii) above.

b. Reinforcement Steel

Description	Rates of Recovery
i. Normal consumption without considering any wastage, scrap or loss as per drawings and specifications.	Free
ii. Wastage / Scrap limited to 3% of the aforesaid normal consumption (Scrap to be returned to APGENCO).	Free
iii. Excess consumption beyond (ii) above, but limited to 5% of the normal consumption without considering wastage / scrap or loss.	Cost of steel as per prevailing market rate per MT at the time of preparation of estimate inclusive of VAT + 25%
iv. Excess consumption beyond (iii) above.	2 times the rate indicated at (iii) above.

III. **Conditions for issue of cement and steel**

a. The wastage / scrap materials shall include all left over materials like melting scrap, other un-usable and useful cut-pieces except the irretrievable loss as specified above for structural steel/stainless steel and pipe line works. All such scrap must be accounted for and returned to APGENCO by the Contractor.

b. All accountable wastage/scrap or unused surplus materials shall be returned to APGENCO stockyard free of cost by the Contractor.

There shall be a limit on the maximum quantity of cement and steel that would be available with the Contractor at any point of time. The quantities shall be worked out by the Engineer-in-Charge in consultation with the Contractor. With each requisition for materials, the Contractor shall furnish the details of materials required, job for which required, last stock balance, actual consumption of materials for the work done and further projection of material required for the work programmed. The quantum of material to be issued by APGENCO will then be decided by the Engineer in charge. The Contractor shall be responsible for the safety, maintaining quality and quantity of the material drawn from APGENCO.

c. The waste materials including un-usable scrap, usable and un-usable surplus material shall be promptly returned by the Contractor to the APGENCO at the location as directed by the Engineer in charge or Stores and receipt obtained for accounting purposes. Periodic reconciliation of materials issued and actual consumption with reference to construction drawings shall be carried out on monthly basis and if excess consumption beyond contract provisions is found, recovery shall be promptly effected from the running account bills of the Contractor at the rates specified in the contract. No material will be allowed to be taken out from the project site under any circumstances.

d. The cement shall be stored by the Contractor in suitable covered stores well protected from atmospheric effects. The stores shall be locked jointly by the Contractor and APGENCO's representatives. Each time when material is issued for consumption, the transaction shall be jointly signed by the representative of APGENCO and the Contractor in the register maintained for the purpose. APGENCO reserves the right to inspect the Contractor's cement stores at any time.

e. The materials like cement shall be issued only after ensuring that the Contractor has adequate covered storage facility within the site.

f. Empty cement bags need not be returned by the Contractor. A Rate of Rs. 2/- per bag plus GST for jute bags and Re. 1/- per bag plus GST for HDPE bags will be recovered from the Contractor's bills.

h. The reinforcement steel less than three meter will be taken back by APGENCO as scrap.

i. The cost of materials supplied by APGENCO for execution of works within main plant boundary walls shall be secured by an indemnity bond in the prescribed proforma by the contractor. The indemnity bond shall cover the total value of steel

& cement issued by APGENCO to the contractor. In case of the works executed outside the main plant boundary, the materials shall be secured by the Contractor
by submission of the bank guarantee from a Nationalized bank for the amount equivalent to the value of materials supplied. Materials will be issued only on furnishing Bank Guarantee.

14. Period of contract:

09 (Nine) Months.

15. Programme of work: -

The attention of the tenderers is directed to the contract requirements as to the time of beginning the work, the rate of progress and dates for the completion of the whole work and it's several parts.

The programme of work to be done from time to time is indicated below. However, the Engineer in charge of the work will decide the priority of various items of work and their location and direct the successful tenderer for execution so as to complete the entire work as required. The date of commencement of this programme will be the date on which the site (premises) is handed over to the contractor. The agreement shall be concluded before the site is handed over to the contractor or before he draws any materials.

Further, it shall also be noted by the tenderer, if on any account, work gets dislocated due to the site being not available for work on any day or due to any other reason it is not binding on the APGENCO to pay any compensation to the contractor, but the corresponding extension of time will be granted to the contractor.

The construction program for the works envisaged in the specification is indicated below

S.No ***(1)***	***Period after date of commencement*** ***(2)***	***Cumulative % of the work to be completed based on contract amount (3)***	***Remarks*** ***(4)***
1.	**At the end of 1st month**	**10 %**	
2.	**At the end of 3rd month**	**40 %**	
3.	**At the end of 6th month**	**75%**	
4.	**At the end of 9th month**	**100%**	

NOTE: - The periods entered in Column (2) for the purpose of defining the rate of progress may be altered by the Engineer in-charge or appropriate authority authorized by APGENCO to suit the requirements of project completion.

If, due to any other reasons beyond the control of the contractor, the progress is slow during any period indicated above, the same shall be made up in subsequent periods and the programme shall be complied within minimum possible time.

The Engineer-in -charge shall direct the sequence and pace of the parts of the work and the contractor shall comply with them. Payment will be effected as per actual work completed and based on the approved mode of payment.

TENDERER

16. PENALTY: - **Action as per clause 60 and 61 of APSS will be taken by the Executive Engineer in-charge if the contractor fails to adhere to the above programme of work.**

17. No part of the contract shall be sublet without written permission of the Executive Engineer in- charge nor shall transfer be made by the power of attorney authorizing others to receive payment on the contractor's behalf.

18. The Chief Engineer/Civil/Thermal or other sanctioning authority reserves the right to reject any tender in full or part or all the tenders without assigning any reason therefore. The quoted percentage shall be binding on the tenderer even if the Chief Engineer/Civil/Thermal awards part of the work.

19. Preference in the selection from among the tenderers will be given, other things being equal, to those who are themselves professionally qualified or who undertake to employ qualified men at their cost to look after the work, who have got experience in similar works and enough equipment and shuttering material. The tenderer should therefore state in clear terms whether they are professionally qualified or whether they undertake to employ technical staff and if so, to give their professional qualifications or of the staff to be employed and their experience etc.

In case the selected tenderer is one who has undertaken to employ technical staff under him, he should see that one of the staff is always at site of the work during working hours, personally checking all items of work and devote extra attention to such works as may demand special attention.

20. A tenderer submitting a quotation which the tender accepting authority considers excessive and/or indicative of the insufficient knowledge of current prices or definite attempt at profiteering will render himself liable to be debarred permanently from tendering or for such periods as the tender accepting authority may decide. The tender percentage should be based on the controlled price for material, if any, fixed by the Government or the reasonable price permissible for the tenderer to charge a private purchaser under the provisions of clause 8 of Hoarding & Profiteering. Prevention Ordinance, 1943 as amended from time to time and on similar principles in regard to labour and supervision in the construction.

21. The form of contract will be lump sum.

22 The tender shall be valid for acceptance for a period of not less than 180 days from the date of opening the tenders.

23. Supplemental Items:

The contractor is bound to execute supplemental items beyond 10% agreement quantity, deducible from similar items in the original agreement and new items that are found essential, incidental and inevitable during execution of main works, at the rates to be worked out as detailed below:

a) Fixation of rates for items of work in excess of quantities in Schedule A Bill of quantities of tender

The percentage less/excess on ECV value quoted by the tenderer shall hold good upto 10% of quantity over those given in bill of quantities.

TENDERER

For all items of work which are in excess of 10% over and above the quantities shown in Schedule 'A' Bill of quantities of the tender, the rate payable for such excess quantities shall be either estimate rate or SSR which tenders were compared plus or minus tender percentage or agreement rate whichever is less.

b) Supplemental items directly deducible from similar items in the original agreement:

The rates shall be derived by adding to or subtracting from the agreement rates of such similar items, the cost of the difference in quantity of material or labour between the new item and the similar item in the agreement worked out with reference to the schedule of rates adopted in the sanctioned estimate with which the tenders were compared plus or minus overall tender percentage.

24. New Items:

i) Similar items the rates of which cannot be directly deduced from the original agreement.

ii) Purely new item which do not correspond to any item in the agreement.

The rate shall be estimate rate plus or minus overall tender percentage.

NOTE: The term estimate rate used in (i) and (ii) above means the rate in the sanctioned estimate with which the tenders were compared or if no such rate is available in the estimate, the rate derived with reference to the schedule of rates adopted in the sanctioned estimate with which tenders are compared.

Addition of provision towards importation of labour, labour amenities, etc.in working out supplemental items

In respect of new items the case has to be considered on its merits and provision for importation of labour, labour amenities, etc., has to be fully justified.

If the new item is in substitution of an old item which allowed for importation of labour, labour amenities, etc., those factors may be taken into account in computing the substituted items also at the same rates at which they were originally provided.

25. The contract is liable for cancellation if either the contractor himself or any of his employee is found to be a Gazetted Officer of the Government or APGENCO, who retired from service and had not obtained the permission from the Government or APGENCO for accepting the contract or employment within a period of two years from the date of his retirement.

26. The contractor will at all times duly observe the provisions of employment of Children Act XXVI of 1938 and any re-enactment or modification of the same and will not employ or permit any persons to do any work for the purpose or under the provisions of the said Act. The contractor shall agree to indemnify the APGENCO from and against all claims/penalties which may be suffered by the APGENCO or any person employed by the Department by reason of any default on the part of the contractor in the observance and performance of the provisions of the Employment of Children Act, XXVI of 1938, or any re-enactment or modification of the same.

27. The contractor shall indemnify the APGENCO against all claims which may be made under the Workmen's Compensation Act or any statutory modification thereof or rules there under or otherwise for or in respect of any damage or compensation payable in consequence of any accident or injury sustained by any workmen engaged in the performance of the business relating to this contract.

TENDERER

In all cases of personal injury to workmen employed by a contractor on this work for which the contractor is liable to pay compensation under the Workmen's Compensation Act, he shall pay the prescribed medical fee to the Medical Officer for issue of 'C' & 'D" forms as prescribed, failing which the said fee will be paid to the Medical Officer by the Department and recovery effected from the contractor's bills.

28. Preliminary specifications of APSS except clause 73 shall apply to all agreements entered by the contractor with APGENCO and shall form an inseparable condition of the contract. The tenderer is expected to examine closely the relevant specifications of the APSS and the special specifications and ISS before submitting his tender offer. In respect of variation in quantities of different item, additions, deletions, methodology in execution, additional time required for execution that may fall beyond the powers of the Chief Engineer and any other matter, the same shall be referred to the concerned director who will take a decision or refer the same to appropriate authority (GOO.No.270/GM(Admn)/2003, Dt 24-07-03)

29.a) Scaffolding and gangways will have to be arranged by the contractor at his own cost, whenever they are considered desirable or necessary by the Executive Engineer-in-charge of the work to facilitate the work.

b) Dewatering if necessary has to be done by the contractor to suit the requirement of the work.

30. The tender offer shall be based on the assumption that the contractor will procure all the machinery and equipment required for the execution of the work.

31. Necessary arrangements have to be made by the contractor at his own expenses towards hutting, accommodation, drinking water supply, health and sanitary arrangements and other amenities for the workers required as per the relevant rules and to the satisfaction of the public health authorities and the Executive Engineer in-charge and land required for the purpose will have to be provided by the contractor at his cost.

32. The tenderer shall invariably furnish hard copies of all the required documents/ certificates / statements uploaded by him along with the original Crossed Demand Draft on any Nationalized Bank drawn in favour of the Pay Officer, APGENCO, Vidyut Soudha, Gunadala, Vijayawada - 500 004, payable at Vijayawada towards bid security before opening of bid either personally or through courier or by post. Receipt of the same within the stipulated time by the tender inviting authority shall be the responsibility of the bidder. Department will not take any responsibility for any delay or non-receipt.

33. All correspondence after opening of the tender shall be made with the Chief Engineer/ Civil/Thermal/ APGENCO, Vidyut Soudha, Gunadala, Vijayawada - 500 004.

34. TENDERER'S AND CONTRACTOR'S CERTIFICATE

A) I/We expressly state that I/We will be bound by the conditions of PS to APSS and that the contract shall be deemed to be concluded on the receipt of letter of acceptance. If there after I/We do not sign the contract or otherwise commit default, the APGENCO will be at liberty to forfeit the earnest money deposit **and recover damages in accordance with law.**

B) I/We hereby declare that I/We have perused in detail and examined closely all clauses of preliminary specifications in the APSS and have examined all the standard specifications for items for which I/We tender, before I/We submit such tender and I/We agree to be bound by and comply with all such specifications for all agreements which I/We shall execute in the

Andhra Pradesh Power Generation Corporation Limited. I/We have signed here below in acknowledgment thereof.

C) I/We certify that I/We have inspected the location of the proposed work before quoting my/our rates, I/We have also inspected the quarries and network of roads and satisfied myself/ourselves about the quality, availability and transport facilities through the network of available roads and pathways, required for the work and verified the correctness of the lead statement.

D) I/We am/are prepared to furnish detailed data in support of all my/our quoted rates, when called to do so without any reservations.

Signature of Tenderer/
Contractor:
Name:
Designation:
Company:
Date:

Seal of Company

SECTION - I

SUPPLEMENTAL CONDITIONS TO THE PRELIMINARY SPECIFICATIONS TO THE A.P.S.S.

The following conditions shall also be followed in addition to those mentioned in P.S. to the A.P.S.S.

1. DATA AND DRAWINGS TO BE FURNISHED BY THE CONTRACTOR:

The contractor shall furnish the following information to the Executive Engineer for approval within the time stipulated against each item from the date of handing over of site to the contractor for starting the work or otherwise stated.

i) Layout plan of construction plant and equipment for the execution of the work which the contractor proposes to adopt at site within two weeks from the date of issue of the Letter of Intent by the APGENCO to the contractor.

ii) a) Prior to the commencement of the work, the contractor shall submit to the Executive Engineer, for approval, drawing or prints in triplicate showing the location of stores, buildings, staff housing facilities if any, roadways, unloading facilities and storage yards etc., which he proposes to put up at the site.

b) Any changes in the approved layout will be subject to further approval.

c) Detailed schedule showing the programme proposed to be achieved month by month for each major item and get the same approved. The Executive Engineer is further empowered to ask for more detailed schedule or schedules, say week by week for any such item or items and the contractor shall supply the same as and when called for, without any reservation whatsoever.

d) The contractor shall furnish every month or at any intervals as may be desired the progress schedules in the form of progress charts, statements and reports as may be approved by the Executive Engineer.

e) The contractor shall maintain proper charts and details regarding machinery, equipment, labour, Technical personnel and other matters as may be specified by the Executive Engineer. He shall further submit returns in the pro-forma and details as may be specified by Executive Engineer from time to time.

2. SAMPLES OR DESCRIPTIVE DATA:

a) Samples or descriptive data of materials requiring approval shall be submitted by the contractor to the Executive Engineer sufficiently in advance before the use of such materials to permit inspection and testing. The samples shall be properly marked to show the name of the materials, manufacture, place of origin and place where to be used etc.

b) Failure of any sample to pass specified tests will be sufficient cause for refusal to consider any further samples from the same source.

3. FUNCTIONING OF THE CONTRACT:

The contractor shall carryout all directions and orders issued by the Executive Engineer connected with the work and shall communicate with him regarding all matters pertaining to the contract.

4. CONTRACT INCLUDES ALL NECESSARY OPERATIONS:

The contractor is to include the whole of works whether permanent or temporary which are described in or implied by the contract documents which may be inferred to be obviously necessary for the efficiency, stability and completion of the permanent works, also the performance of all other operations and the supplying of all materials and things described in or implied by the contract documents which may be deemed desirable or required for the completion in all respects of the above works to the entire satisfaction of the Executive Engineer and all such matters shall be deemed as included in the contract.

Works shown in the drawings and not mentioned in the specification or described in the specifications without being shown in the drawings shall nevertheless be held to be included in this contract, in the same manner as if they had been expressly shown in the drawings and described in the specifications also.

5. CONTRACTOR TO RESTORE PLANT:

Upon completion of the contract, the contractor shall deliver to the Executive Engineer in-charge all plant which may have been lent or hired, to him and make good all damages which may have occurred to them except such, as shall be certified by the Executive Engineer in-charge to be caused by fair wear and tear in the execution of works.

6. OTHER CONTRACTS FOR THE WORK:

Should the APGENCO enter into other contracts for specified items of the corporate work each contractor shall cooperate with others to the fullest extent and shall allow each other every facility and coordination for execution of their works simultaneously and satisfactorily as intended in the designs, specifications and drawings. Should there be dispute or disagreement between the contractors for any cause whatsoever, the same shall be referred to the Executive Engineer whose decision regarding the coordination, cooperation and facilities to be provided by any of the contractors to the others shall be final and binding on all parties and such a decision or decisions shall not vitiate any contract nor absolve the contractor of his responsibilities under the contract.

7. a) DEPARTMENTAL SUPPLY OF MATERIALS:-

The contractor shall submit his requirements of materials well in advance and his indents must be commensurate with actual needs. The APGENCO will be responsible for the supply of only such materials in the Schedule-'B' and only to such an extent according to availability and at such rates as may be specified in the Schedule'B'. Delay in the supply of such materials, due to any reasons whatsoever shall not entitle the contractor to claim any compensation, but the Executive Engineer in-charge will, on the written application of the contractor, give such an extension of time, as he deems reasonable. Any other materials or stores, required for bonafied use on works, available with the Department, may be issued by the Executive Engineer in-charge at the book rate or market rate on the date of issue whichever is higher plus VAT, Centages. This specifically covers the issues of HSD Oil, Petrol and other lubricants, AC sheets and other materials to the extent department may be able to spare.

In case, materials issued to contractor departmentally are left over unused due to short use or any other cause, the materials will be taken back if return in good condition at the same issue rates at which they were supplied by APGENCO. If the materials are not returned or not in the opinion of the Executive Engineer in-charge of the work in a fit condition for use, their cost will be recovered at the rates indicated in the special conditions of contract of this specification.

7 b). DEPARTMENTAL SUPPLY OF MACHINERY ON HIRE :

Subject to the availability, APGENCO may supply machinery, tools and plants on hire basis to the tenderer for use in the execution of works. The hire charges fixed as per the rules in force from time to time in the APGENCO are binding on the tenderer. The acceptance of machinery, if any available with APGENCO on hire basis, is optional to the tenderer.

8. CONTRACTOR TO KEEP INVENTORY OF PLANT, MACHINERY, MATERIALS ETC.

The contractor shall prepare and maintain an inventory of all materials taken from stores, plant purchased or hired for use or employment or for any of the purposes of this contract and such inventory or a copy thereof shall, at all times, be available for inspection by the Executive Engineer.

9. PROTECTION OF WORK :

The contractor shall during the progress of work properly cover up and protect the work and plant and materials placed at his disposal or acquired for him by the APGENCO, from injury by exposure to the weather and shall take every responsible, proper and timely precautions against accident or injury to the same from any cause and shall be and remain answerable and deemed liable for all accidents or injuries thereto until the same be or deemed to be taken over by the APGENCO. Such damages or injuries, which may arise or occasioned by the acts or omissions of the contractor or his workmen or subcontractors and all losses and damages to the works or such plant and materials arising from such accidents or injuries as aforesaid shall be made good in the most complete and substantial manner by and at the sole cost of the contractor and to the satisfaction of the Executive Engineer-in-charge.

If the Executive Engineer considers that the work or material or plant advanced by the APGENCO is not sufficiently protected by the contractor, he shall be entitled to arrange for such protection at his discretion and recover the cost thereof from the contractor.

10. MATERIALS, TOOLS AND PLANT BROUGHT ON TO THE SITE OF WORK:

All the materials, tools and plant of the contractor brought to and delivered upon the site for purpose of the work shall from the time of their being so brought, be deemed to be in the possession of APGENCO to be used for that purpose only and shall not, on any account, be removed or taken away by the contractor or any other person without the express permission in writing of the Executive Engineer, but the contractor shall nevertheless be solely liable and responsible for any loss or destruction thereof or damage thereto.

11. PERSONNEL OF THE CONTRACTOR:

a) The contractor shall, at all times, maintain on the work, staff of qualified engineers and supervisors of sufficient experience of similar other jobs to assure that the quality of work turned out shall be as intended in these specifications and they shall be present at the work spot during working hours and at the time of inspection by the departmental officers. All orders and directions given to such supervision or other staff of the contractor shall be deemed to have been given to the contractor. Further, the Executive Engineer may by due notice, desire a higher ranking member of the supervisory staff of the contractor to be present and the contractor shall comply with such requisitions. The contractor shall also maintain at the work, Works Manager of sufficient status and experience and duly authorize him to deal with the aspects of the day to day work. All communications to commitment by this Works Manager shall be considered binding on the contractor.

b) The contractor shall supply to the Executive Engineer details of the name, qualifications and experience in regard to all supervisory staff employed by the contractor and notify change when made and satisfy the Executive Engineer regarding the quality and sufficiency of the staff thus employed.

c) The Executive Engineer will have the unquestionable right to ask for change in the quality and number of the contractor's supervisory staff and to order removal from the work and any connection therewith of any such staff. The contractor shall comply with such orders and effect replacement to the satisfaction of the Executive Engineer.

d) The contractor shall not, without written authorization permit entry on site of work of any person except authorized agents of the APGENCO or the contractor's staff and labour directly engaged on, in connection with the work.

12. USE OF SITE :

a) The contractor will be permitted to use the site without any charge and all lands required for the permanent occupation of the works. He will also be allowed during the period of his contract the use of any other lands in the vicinity of the works as and when the Executive Engineer may consider such use to be necessary for the bonafied purpose of the works subject to availability. The contractor shall not commence any operation on such lands except with prior approval of the Executive Engineer.

b) All areas of operation including those for his staff and labour colonies handed over to the contractor shall be cleared and handed over back in good condition to the Executive Engineer except areas under works constructed as per this contract or those for which specific approval has been obtained from the Executive Engineer. The contractor shall make good to the satisfaction of the Executive Engineer any damage or alterations made to areas which he has to hand over back or to other property or land handed over to him for purposes of this work.

c) Temporary structures may be erected by the contractor for storage sheds, offices etc., for non commercial use on the land handed over to him at his own expense and with the permission of the Executive Engineer as regards thereto. At the conclusion of the work, the structures should be dismantled and the site cleared and handed over to the department.

d) Accommodation: For use of contractor and his employees the contractor shall have to provide accommodation, water supply, drainage and other facilities for himself and his employees at his own cost. The department will, as far as practicable, make available suitable land in the vicinity of the site for such purpose, as herein above mentioned.

In matters of layouts, spacing, water supply, drainage, medical facilities etc., to be provided by the contractor, the contractor shall be bound to carry out the instructions of the Executive Engineer in-charge of the work, or the Health Officer as may be issued from time to time.

The contractor shall be responsible for maintaining good order in his camp and on his work and to that he shall employ several officers and watchmen or other persons as required.

Unauthorized or undesirable persons shall be excluded from the camp and the work. If, in the opinion of the Executive Engineer in-charge of the work, any employee or agent of the contractor misbehaves or causes destruction in the execution of project work or otherwise makes himself undesirable the contractor shall on receipt of the instructions to do so, remove him from the premises forthwith.

e) Temporary structures: The contractor shall provide at his own cost all temporary structures, cement godowns, workshops, shelters etc., as may be necessary and maintain them in good and safe condition.

f) The contractor shall preserve all existing vegetation such as trees on or adjacent to the site which do not interfere with the construction work as determined by the Executive Engineer. The contractor shall take all possible precautions in felling trees authorized for removal to avoid any unnecessary damage to vegetation and trees not to be felled and to structures under construction or to workmen and shall be responsible for any damage if it occurs in such operation.

All produce from the cutting of trees etc., shall be the property of the APGENCO/Govt. and shall be stacked and placed at the place specified by the Executive Engineer. No claim shall be made for such cutting and stacking of trees etc., by the contractor.

g) The contractor shall not unnecessarily or for use as fuel, cut any trees, brush wood, grass or other vegetation or shall set fire there to without the written permission of the Executive Engineer. When such permission has been given, the contractor shall take necessary measures to prevent damage and preventing of fire spreading to surrounding property and shall be responsible for any such damage if caused.

h) Any standing trees or other materials which the contractor may have to remove to clear the lands shall be removed as directed by the Executive Engineer and handed over to the Executive Engineer in neat sizable stacks at the boundaries of the areas or as may be directed by the Executive Engineer in-charge.

i) The lands shall be herein before mentioned handed over to the Executive Engineer after the completion of the work under this contract. Also no land shall be held by the contractor longer than the Executive Engineer shall deem necessary and vacate and return the land which the Executive Engineer may certify as no longer required by the contractor, for purpose of the work.

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13. ACCURACY OF LINES, LEVELS & GRADES:

a) The levels shown in the drawings are based on the standard bench marks established near the work spot. All levels, drawings, survey reference marks shall be based on the standard B.M. unless otherwise directed by the Executive Engineer.

b) The contractor shall provide at his expense all templates, pillars, stakes, equipment, materials and labour for establishing the grid lines and pillars and shall be responsible for their maintenance during the whole period of construction. These shall be laid out with the prior approval of and check by the Executive Engineer. No base line or branch or reference marks shall be used as reference lines, mark or level for the work without the prior approval of the Executive Engineer. The contractor shall maintain a certified copy of such approved bench mark and levels and shall not remove any of the approved BMs. without the prior approval of the Executive Engineer.

c) The contractor shall layout the work from those reference lines and shall be responsible for the correctness of all measurements and levels in connection there with not withstanding the fact, that the same might have been checked by the departmental staff.

d) In case of any deviation or discrepancy during execution of line or level as set out by the departmental officers in-charge, contractor shall make good the discrepancy at his own cost and without any extra compensation for the additional work involved. The Executive Engineer shall further have the unquestioned right if need be, to rectify the discrepancies and recover the costs from the contractor as he may consider reasonable.

14. SAFETY MEASURES:

The contractor shall take all necessary precautions for the safety of workers and in preserving their health while working in such jobs as require special protection and preventive steps. The following are some of the measures listed but the same are not exhaustive and the contractor shall add to and augment these precautions on his own initiative where necessary and shall comply with the directions issued by the Executive Engineer in this behalf from time to time and at all times.

i) Providing protective foot wear to workers in site in situations like mixing and placing of mortar or concrete in places where the work is done under too much wet conditions.

ii) Taking necessary steps towards training the workers concerned on the machinery before they are allowed to handle them independently and taking all necessary precautions in and around the areas where machines, hoists etc., and similar units are working.

15. PATENT RIGHT:

In the event of any claim or demand being made or action being brought against the APGENCO for infringement of letter of patent, registration for infringement or design or trade mark in respect of any machine, plant, materials or things or method of using or working by the APGENCO of such machine, plant, materials or things belonging to the contractor, he shall indemnify the APGENCO against all costs and expenses arising from or

incurred by reason of any such claim provided that the APGENCO shall notify the contractor immediately after any claim is made and that the contractor shall be at liberty, if he so desires with the assistance of the APGENCO if required but at the contractor's expense to conduct all negotiations for the settlement of the same or any litigation that may arise there from and provided that no such machine, plant, materials or things shall be used by the APGENCO for any purpose or any manner other than that for which they have been supplied by the contractor and specified under this contract.

16. FUEL STORAGE TANKS:

The storage of gasoline (Petrol and other fuel oil or other inflammable materials) shall confirm to the regulations for such storage issued by the State and Central Government. Fuel storage tanks above ground of a capacity in excess of 1360 litres shall not be located within the camp area nor within 900 meters of any building or habitation.

17. PROGRESS SCHEDULE :

a) The contractor shall furnish within two weeks of receipt of Letter of Intent a progress schedule in quadruplicate including the date of start, the monthly progress expected to be achieved and the anticipated completion, date of each major item of work to be done by him, also indicating the date of procurement and setting of materials, plant and machinery.

The schedules shall be practicable of achievement towards completion of the whole work in the time limit and in keeping with the rate of progress specified in the tender notice and shall have the approval of the Executive Engineer. Further, dates for the progress schedule shall be kept up to date. In case, it is found subsequently necessary to alter this schedule, the contractor shall submit in good time a revised schedule incorporate in the necessary modifications proposed and get the same approved by the Executive Engineer. No revised schedule shall be operative without such acceptance in writing.

b) The Executive Engineer shall have at all times the right without any way vitiating this contract or forming grounds for any claim, to alter the order of the works or any part thereof and the contractor shall after receiving such directions, proceed in the order directed. The contractor shall also revise the progress schedule accordingly and submit four copies of the revised schedule to the Executive Engineer within 7 days of the Executive Engineer's direction to alter the order of work.

c) The contractor shall furnish sufficient plant equipment and labour and shall work such hours and shifts as may be necessary, to maintain the progress on the work as per the approved progress schedule. The working and shift hours shall comply with all APGENCO regulations in force.

18. SPEED OF WORKS :

The contractor shall, at all times, maintain the speed of works to confirm to the latest operative progress schedule, but the Executive Engineer may, at any time in writing, direct the contractor to slow down any part or whole of the work for any reason (which shall not be questioned) whatsoever and the contractor shall comply with such orders of the Executive Engineer. The compliance of such order shall not entitle the contractor to any claim or compensation. Such order of the Executive Engineer for slowing down the work will, however, be duly taken into account while granting extension of time that may be requested by the contractor.

19. EXTRA ITEMS:

The contractor shall, before the 15th day, of each month submit in writing to the Executive Engineer a statement of extra items of work ,if any that he may have executed during the proceeding month FAILING WHICH THE CONTRACTOR SHALL NOT BE ENTITLED TO CLAIM ANY PAYMENT.

20. CONTRACT DOCUMENTS AND MATTERS TO BE TREATED AS CONFIDENTIAL :

All documents, correspondence, decisions and other items concerned with the contract shall be considered as confidential and restricted matter by the contractor and he shall not divulge or allow access thereto, to any unauthorized person.

21. BREACH ON THE PART OF A.P.GENCO NOT TO ANNUL CONTRACT:

No breach or non-observation on the part of the APGENCO of any of the agreements contained herein shall annul this contract or discharge the contractor from the observance and performance thereof or any part thereof but on application from the contractor and in the unfettered discretion of the Executive Engineer, an extension of time may be given to the contractor in respect of such breach or nonobservance by the APGENCO.

22. COMPENSATION AND PENALTY:

All such recoveries from the contractor by way of penalty under any of the conditions of this contract shall be considered as reasonable compensation for the use of the APGENCO without reference to the actual loss or damage sustained and whether any damage that has to be sustained.

23. JURISDICTION:

For the purpose of this agreement, all the transactions shall be deemed to have taken place within the State of ANDHRA PRADESH and the courts in ANDHRA PRADESH shall have jurisdiction over the matters arising under or/out of this agreement.

24. LABOUR CONDITIONS:

(a) The contractor shall comply with the statutory labour rules and regulations i.e., ESI, EPF etc., as may be current and shall furnish the returns and information as may be specified from time to time.

(b) The contractor is deemed to be the principal employer in respect of the Contract Labour engaged by him in execution of various piece rated works or other wise and contractor shall be responsible to pay both the EPF contributions payable by him as a principal employer and also on behalf of the Contract Labour employed to the PF authorities concerned in independent PF account number held by him.

c) It shall be the responsibility of the contractor to remit PF subscriptions of both on behalf of employer and Contract Labour engaged and shall submit the returns and maintain all records/registers and meet all other expenses to the EPF authorities,as required under the EPF & MP act 1952.

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(d) The contractor shall produce the copy of independent PF code number, proof of proper insurance policy covering all the labour to be engaged in such work/works to the concerned field officials prior to commencement of work.

(e) The bills of the contractors for the works executed will be passed only on receipt of copies of PF remittances made by the contractor to the concerned PF authorities in the independent PF code Number held by respective Contractors.The copies of insurance premium paid covering the labour engaged by him against each of works contract also shall be produced to concerned field officials enabling them to regulate bills submitted.

f) The contractor shall recruit experienced people who have experience in similar type of works and preference shall be given for such experienced staff who came through the nearest employment exchange. No person below the age of 15 years shall be employed as labourer. While employing skilled or unskilled labourers, the contractor shall give first preference to the persons certified to him by the Executive Engineer or his duly authorized representatives.

g) The contractor shall pay fair and reasonable wages (whether or not such wages are controlled by any laws existing at the time) to the mazdoors employed by him for the work. In the event of any dispute arising between the contractor and his workers on the grounds that the wages paid are not fair and reasonable, the dispute shall, in the absence of legal or other relief to the workers, be referred to the Executive Engineer who shall decide the same. The decision of the Executive Engineer shall be conclusive and binding on the contractor but such decision or any other decision in this behalf that the contractor's workmen may obtain by recourse to law or other legal means available to them shall not in any way affect the conditions in the contract, regarding payments to be made by the APGENCO.

h) The contractor shall provide reasonable facilities to the satisfaction of the Executive Engineer for the labour employed by him where no such natural facilities exist. The usual facilities are weather proof shelters for rests and meals, supply of wholesome drinking water facilities for women workers, suitable residential accommodation, recreational and cultural activities general sanitation and health measures etc.

j) The implementation of any provisions of this clause shall in no way entitle the contractor to claim any compensation over and above the rates provided in the contract.

k) The contractor shall comply with the labour rules and regulations as may be current and shall furnish the returns and information as may be specified from time to time.

25. CONSTRUCTION OF THE CONTRACT:

The contract shall in all respects be constructed and operated as contract as defined in the Indian Contract Act, 1872 and all payments to be made there under shall be made in 'Rupees' unless otherwise specified.

26. TOLLS & SEIGNIORAGE:

The contractor shall, unless otherwise specially stated in the tender notice and subsequently on this basis in the contract be responsible for the payment wherever payable of all import duties, tolls, octroi duties, seigniorage, quarry fees etc., on all materials and articles that he may use. Seignorage and local cess charges payable on the materials used by the tenderer in the work will be recovered at rates fixed by competent authority from time to time from the contractor's bills and the same will be remitted to Mines & Minerals Department.

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All taxes, duties seignorage and local cess charges etc, payable to the Govt./Quasi Govt.Bodies except GST, EPF & ESI at the rates as on the date of opening of tender are deemed to be included in the quoted percentage less/excess on ECV and will be recovered at rates fixed by competent authority from time to time from the contract bills. Statutory variations in the applicable rates or newly introduced taxes/duties, Seignorage and local cess within the contract period will be to APGENCO's account. Any upward variation/revision in the applicable rates or newly introduced taxes/duties, Seignorage and local cess beyond the contract period will be to the contractor's Account. Downward variation /revision in the applicable rates or newly introduced taxes/duties, Seignorage and local cess beyond the contract period shall be passed on to the APGENCO's Account.

The quoted percentage less/excess on ECV for the subject work shall be excluding of GST, EPF & ESI which will be reimbursed by APGENCO only on production of proof of remittance made and subject to the satisfaction of Engineer-in-Charge.

Notwithstanding anything contained in Section 10 of the Indian Tariff Act, of 1894, the rates for item involving the use or supply of articles obtained by the contractor from outside India shall remain unaffected by any changes that may be introduced in the Customs duties.

Other taxes and duties levied by the Central/ State Governments prevailing as on the date of opening of tenders shall be to the contractors account and the percentage less/ excess on ECV value quoted shall be inclusive of them. Any increase in other taxes and duties shall be to APGENCO's account. If there is any decrease in other taxes and duties, credit shall be given to APGENCO to that extent.

The APGENCO will not however be responsible for payment any other tax made by the contractor under misapprehension of law.

The bidder shall furnish breakup details of all taxes included in the quoted value.

The rate quoted for the subject work shall be excluding GST, EPF & ESI which will be reimbursed by APGENCO on production of proof of actual remittances made and subject to the satisfaction of Engineer-in- Charge that the said contribution done is only for the workers employed on this work. APGENCO will not reimburse any excess payment made by the contractor for EPF & ESI due to mis-interpretation of law or any other reason.

27. CONTRACTOR'S RISK AND INSURANCE:

Clause 50 of the PS to APSS will be effective subject to the following modifications.

The words "work-executed", occurring in line 1 of the above clause will also include "work under execution".

28. DELAYS IN COMMENCEMENT OR PROGRESS OR NEGLECT OF WORK AND FORFEITURE OF EARNEST MONEY SECURITY DEPOSIT AND WITHHELD AMOUNTS:

Clause 60 & 61 of the PS to APSS will remain effective.

29. COVERING OF WORK:

The contractor shall give not less than five days notice in writing to the Executive Engineer of the work which is proposed to be covered up or placed beyond the reach of measurement so that the measurements may be taken before the work is covered up or placed beyond the reach of measurement and shall not cover up or place beyond the reach of measurement any work without the written consent of the Executive Engineer. If any work is covered up or placed beyond reach of measurements without such notice having been given or consent obtained, the same shall be uncovered at the contractor's expense and in default thereof no payment or allowance shall be made for such work or for materials with which the same was executed.

30. TERMS OF PAYMENTS AND CERTIFICATES :

Clause 68 of the PS to APSS states as follows.

PAYMENTS AND CERTIFICATES:

Payment will be made to the contractor under the certificate to be issued at reasonably frequent intervals by the Executive Engineer or by the sub-divisional officer. Within 14 days of the date of each certificate, an intermediate payment will be made by the Executive Engineer or the Sub-divisional officer of a sum equal to 92 ½% (96 ½% in the case of contractors who have lodged the standing security deposit of Rs.50,000/-) of the value of work, as so certified and the balance of 7 ½% (3 ½% in the case of contractors who have the standing security deposit) will be withheld and retained as a security for the due fulfillment of the contract. Under the certificate to be issued by the Executive Engineer or the Sub-divisional officer on the completion of the entire works the contractor will receive the final payment of all the moneys due or payable to him under or by virtue of the contractor except earnest money Deposit retained as security and a sum equal to 2 ½ per cent of the total value of the work done, provided there is no recovery from or forfeiture by the contractor to be made under clause 60. The amount with held from the final bill will be retained under “deposits” and paid to the contractor together with the earnest money Deposit retained as Security after a period of six months as all defects shall have been made good according to the true intent and meaning thereof. However in the case of works like conveyance of Materials, supply of materials, silt clearance where the fixation of observation period is not necessary, the deposit amount could be refunded after the work is completed in accordance with the terms of the agreement.

No certificate of the Executive Engineer or the Sub-Divisional officer shall be considered conclusive evidence as to the sufficiency of any work or materials or correctness of measurements to which it relates, nor shall it relieve the contractor from his liability to make good defects as provided by the contractor. The contractor, when applying for a certificate, shall prepare a sufficiently detailed bill, based on the original figures of quantities and rates in the contract- Schedule A- to the satisfaction of the Executive Engineer, to enable the Executive Engineer or the Sub-Divisional Officer to check the claim and issue the certificate. The certificate as to such of the claims mentioned in the application as or allowed by the Executive Engineer or the Sub-Divisional Officer shall be issued within fourteen days of the application. No application for a certificate shall be made within fourteen days of a previous application.

In calculating the amount of each item due to the contractor in every bill submitted for payment under this contract, fractions of below five paise shall be ommited and five paise or over shall be reckoned as ten paise. In calculating the total on each bill amounting to Rs 25 or more under this contract, fractions of less than a half Rupee shall be disregarded and half a rupee and over shall be reckoned as one rupee.

Clause 68 of the PS to APSS applies with the following modifications.

a) for the 92.5% occurring in line 4 of the above clause read as 95%

b) for 7.5% occurring in line 6 of the above clause, read as 5%

c) Description with in brackets deleted.

d) for "earnest money----------work done" occurring in lines 11 to 12 read as follows:
"Earnest money deposit & Security deposit retained as security and a sum equal to 5% of the total value of work done retained in the bills".

e) for the words 'six months' occurring in line 15 of the above clause read "twenty four months "

f) the words "**fourteen days of the date of each certificate**" occurring in line 3 & 4 of above clause in PS to APSS read as **"30 days reckoned from the date of submission of bill by the contractor and where there is no detailed bill, the date of certification of the claim by the concerned engineer shall be the criteria.**

31. RECOVERIES:

Recoveries due from contractor shall be made from bills approved for payment every month or at other periods, when the bills are prepared for the various items in the following order of priorities and extent

i) Penalty in full, if levied:

ii) Expenditure, if any, incurred by the APGENCO on the contractor's behalf on labour or materials in full;

iii) Charges on account of supplies of materials like cement, steel etc., actually used upon various items of works billed for;

iv) Hire charges for machinery, if any;

vi) Other recoveries;

v) Recovery of advance and secured payments or payments for preliminary works in full or installment due, if the same may have been allowed.

Outstanding recoveries, if any, shall be made from the succeeding bills with the provision that the out standing payment for any item shall for purpose of recovery, be added to the same item for recovery in the aforesaid succeeding bills.

32. ARBITRATION:

i) All or any disputes or differences arising out of or touching the order based on this specification shall be decided by a panel of arbitrators as detailed below and as per arbitration act No.1 of 1990 to the Arbitration Act 1940 amended vide G.O.No.7 dt.19-05-1990.

Value of claim	**Panel of arbitrators**
i) Disputes involving amounts up to Rs.10,000/- and below.	Superintending Engineer of the APGENCO other than the circle to which the disputes relate.
ii) Disputes involving amount from Rs.10,000/- to Rs.50,000/-	Any Chief Engineer of the APGENCO other than concerned Chief Engineer.

There shall not be any reference of disputes, the value of which is above Rs.50,000/- to arbitration. The parties shall approach the competent Civil Courts having jurisdiction, if any such disputes shall arise.

33. MATERIALS TO BE FURNISHED BY THE CONTRACTOR:

The contractor will be required to procure all the materials necessary for completion of the work, except the materials indicated in Schedule B. The contractor will be required to handle all these materials. The cost of the materials should include the cost of handling and hauling.

34. ASSISTANCE IN PROCUREMENT OF PRIORITIES, PERMITS, LICENCES OR OTHER FACILITIES ETC.

The Superintending Engineer/Civil/O&M/Dr.NTTPS in charge of work, on request by the contractor, will if in his opinion the request is reasonable and is in the interest of the work and its progress, assist the contractor in procurement of necessary license for obtaining necessary plant, machinery or materials not available locally.

The department will also assist the contractor in securing priorities for deliveries, transport etc., where such are needed. The A.P.GENCO will not however be responsible for the non-availability of any of the above facilities or delay in this behalf and for claims either in cost or time on account of such failures or delays and the contractor is not entitled for any claim against APGENCO.

35. DRAWINGS:

The drawings enclosed to the specifications are for tender purpose only and are only indicative of the nature of work included in this contract. The actual detailed construction drawings shall be issued to the successful tenderer after the work is awarded. However, all the drawings required for the execution of the entire work included in this contract shall not be made available simultaneously on award of work but shall be issued from time to time for various works as per programme and priorities fixed by the Engineer in-charge and depending on the actual progress of work. Immediately after award of work, the contractor shall give a programme indicating therein any particular or special sequence in which he would like to carry out the work under this contract. However, the decision of the Engineer in-charge on such programme and sequence of construction shall be final and binding on the contractor. In case, work is delayed due to delays in the issue of construction drawings, the contractor shall be given suitable extension of time as may be decided by the Engineer in-charge. However, the contractor shall not be entitled to any type of claim whatsoever on this account.

36. SUPERVISION, SKILLED & UNSKILLED LABOUR:

The contractor shall provide supervising engineers, sufficiently technically qualified and experienced. The Chief Supervising Engineer of the contractor or his agent shall have full powers as the representative of the contractor to enter into negotiations at site in regard to the execution of the contract.

37. SUBCONTRACTORS AND SUBORDERS:

The names of persons or firms to whom the contractor proposes to sublet portion of this contract must be submitted for approval of Chief Engineer/C/Thermal. Contractor can sublet upto a maximum 50% of contract value with the prior approval from Chief Engineer/C/Thermal (Subcontractor shall have the credentials of the eligibility criteria prescribed on prorata basis).

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Triplicate copies of contractor's orders sub-letting the work to sub contractors are to be submitted for approval by the Executive Engineer.

38. EPF and ESI:

The tenderer must possess independent EPF code number. The contractor shall be responsible for payment of all the contributions towards EPF for the workers and staff engaged by the contractor for the work as per the rules applicable. The bills of the contractor for the work executed will be passed only after receipt of the copies of documentary evidence of provident fund remittances made by the contractor against the work under the independent EPF Code number held by him.

The contractor shall also be responsible for payment of all the contributions/ remittances towards ESI in respect of the workers and staff engaged by the contractor for the work as per the rules applicable. The bills of the contractor for the work executed will be passed only after receipt of the copies of documentary evidence of contributions/remittances towards ESI made by the contractor in respect of the workers and staff engaged by the contractor for the work.

SECTION - II

SITE CONDITIONS

1.00 PROJECT INFORMATION AND DATA

Dr. Narla Tata Rao Thermal Power Station is situated between Ibrahimpatnam and Kondapalli village of Krishna District at a distance of 16 KM from Vijayawada. The nearest Railway station is Kondapalli, which is 2 KM from the site. There is a major district road between Ibrahimpatnam and Tiruvuru. Ibrahimpatnam is only 1 KM from National Highway No. 9 Ibrahimpatnam Junction. The nearest air port is Gannavaram, which is approximately 40 KM from the site. The project information and data is given below:

1.01	Owner / Purchaser	:	Andhra Pradesh Power Generation Corporation Limited (APGENCO)
1.02	Project Title	:	Dr. Narla Tata Rao Thermal Power Station.
1.03	Nearest Railway Station	:	Kondapalli Railway Station (2 KM from site)
1.04	Name of Railway	:	South Central Railway
1.05	Nearest Airport	:	Gannavaram (40 KM from site)
1.06	Altitude	:	(+) 27.50 m above mean sea level
1.07	Climate	:	Tropical-Hot-Humid
1.08	**Ambient Temperature (Dry Bulb)**		
	a) Daily maximum (Mean)	:	40.0 Deg. C
	b) Daily minimum (Mean)	:	10.0 Deg. C
1.09	**Relative Humidity**		
	a) Maximum during monsoon (June to October)	:	81 percent
	b) Humidity during summer (March to June)	:	50 to 75 percent
	c) Humidity during winter (November to March)	:	45 to 75 percent
1.10	**Rainfall**		
	a) Maximum per annum	:	1500 mm
	b) Average per annum	:	1000 mm
	c) Tropical monsoon	:	June to October

1.11 **Wind Velocity & Pressure** (As per IS: 875-1987)

a)	Basic Wind Speed	:	50 M/Sec. at 10 M above mean retarding surface
b)	Terrain classification	:	Category – I

1.12 Seismic Zone : III as per IS: 1893-2002

1.13 **Transport**

a)	Name of highway near which the plant is located	:	Ibrahimpatnam – Tiruvuru Road
b)	Railway (Gauge)	:	Broad Gauge

2.0 **Site Conditions:**

Before submitting the tender, the tenderer shall familiarize himself with the site conditions.

3.0 **Storage and Handling Facilities**

The land required for storage of contractors materials, plant and equipment as assessed by the Executive Engineer will be allotted at free of cost. All temporary stores, shelters and other structures necessary for security and protection of the Contractor's materials, plant and equipment shall be arranged by the Contractor.

4.0 **Approach Roads**

The access roads to project site are to be inspected by the tenderer before submitting his offer. The Contractor shall at his own cost construct and maintain any additional approach roads or access roads on the site of work as he may deem necessary and shall allow the free use of the same by the department.

5.0 **WATER SUPPLY**

Water required for construction of works shall be provided by APGENCO at free of cost at one point and the contractor has to make arrangements at his own cost for laying distribution lines as per requirements.

The contractor has to make his own arrangements at his own cost for arranging supply of treated potable water to his employees on works. He shall have to take all measures required for purification of water in accordance with general rules and regulations of the Public Health Department. Misuse or wastage of water shall be prevented, failing which charges will be levied.

Suitable arrangement shall be made by the contractor for drainage of rain and other water around his colony and work spots to the satisfaction of the Executive Engineer in charge and Public Health Department.

6. **POWER FOR CONSTRUCTION**

Electric power required by the contractor will be made available at free of cost at the work site or any other point fixed by the Engineer-in-Charge.

7.0 **Clearing up the site**

During construction, the contractors shall keep the work site and storage areas used by him free from accumulations of waste materials or rubbish. Before completing the works, the contractor shall, at his own cost, remove or dispose off in a manner satisfactory to the Executive Engineer-in-charge, all temporary structures, waste and debris and shall fill all holes in the ground and restore the lands to their original condition (as far as practicable) and leave the entire premises in a neat and tidy condition of cleanliness as directed by the Executive Engineer.

8.0 **Utilities and Amenities**

The utilities and amenities mentioned herein above shall be available on the terms and conditions specified or may be in force from time to time subject to availability. APGENCO will attempt to maintain these services uninterrupted but no claim or compensation shall be made against APGENCO for any break-downs, interruptions, stoppage, reductions, accidents etc.

9.0 **Dump Areas**

9.1 Materials obtained for the work shall be dumped in the areas as indicated by the Executive Engineer from time to time. The contractor shall form and maintain access roads, drainage and diversion of nallahs as necessary.

9.2 The use of the land under the dump areas and the access roads shall be free of charge.

10.0 **Other Contractors**

10.1 In the matter of dumps, access roads, drainage, diversions and the like, the contractor shall take into consideration the needs and requirements of other contractors, if any, working in the vicinity. Further, the contractor shall not make or cause disruption, discontent or disturbance to the work, labour or arrangements etc., of other contractors in adjoining areas of this Work or at any other place in the project

10.2 Any action by the contractor which the Executive Engineer in his un-questioned discretion may consider as infringement of the above code would be considered as a breach of the contract conditions and the Executive Engineer may take such action as he may deem fit against the Contractor and the action taken shall be considered as final and binding on the contractor.

SECTION -III

RULES FOR PROVISION OF HEALTH & SANITARY ARRANGEMENTS TO WORKERS

Rules for the provision of health and sanitary arrangements for workers shall be applicable to all classes of workers.

The contractor's special attention is invited to clauses 37,38,39 and 51 of PS to the APSS and he is requested to provide at his own expenses the following amenities to the satisfaction of the Executive Engineer in-charge.

1. FIRST AID :

At the work site, there shall be maintained in a readily accessible place, first aid, appliances and medicines including an adequate supply of sterilized dressing and sterilized cotton wool. The appliances shall be kept in good order. They shall be placed under the charge of a responsible person who shall be readily available during the working hours.

2. DRINKING WATER :

a) Water of good quality fit for drinking purposes shall be provided for the workers on a scale of not less than 15 litres per head per day.

b) Where drinking water is obtained from an intermittent public water supply, each work shall be provided with storage tank where such drinking water shall be stored.

c) Every water supply storage shall be at a distance of not less than 15 meters 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 any latrine, drain or other source of pollution, it 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.

d) A reliable pump shall be fitted to each well, the trap door shall be kept locked and opened only for inspection or cleaning which shall be done at least once a month.

3. WASHING & BATHING PLACES :

Adequate washing and bathing places shall be provided separately for men and women. Such places shall be kept clean and well drained. Bathing or washing should not be allowed in or near any drinking water well.

4. LATRINES & URINALS :

Latrines and urinals shall be provided within the premises of work site and residential areas separately in an accessible place on the following scale or on the scales so directed by the Executive Engineer-in-charge in any particular case.

	Sets
(1) Where the number of persons employed does not exceed 50	2
(2) Where the number of persons employed exceed 50 but does not exceed 100.	3
(3) For every additional 100.	3

TENDERER

If women are employed, separate latrines and urinals, screened with from those for men, shall be provided on the same scale.

Except in work sites provided with water flushed latrines connected with water borne sewage system, all latrines shall be provided with receptacles and dry earth system which shall be cleaned at least four times daily and at least twice during working hours and kept in a strictly sanitary conditions. The receptacles shall be tarred inside and outside, at least once an year.

The excreta from the latrines shall be disposed off at the contractor's expense, in out way pits approved by the local Public Health Authority. The contractor shall also employ adequate number of scavengers and conservancy staff to keep the latrines and urinals in a clean condition.

The latrines and urinals shall be constructed and maintained as per the rules of local Public Health department.

5. SHELTERS DURING REST :

At the work site there shall be provided free of cost, two suitable sheds, one for meals and the other for rest for the use of workers.

6. CRECHES :

At every work site at which 80 or more women workers are ordinarily employed, there shall be provided two huts of suitable size for the use of children, under the age of 3 years belonging to such women. One hut shall be used for infants games and play and the other as their bed room. The huts shall be constructed on a standard not lower than the following.

i) Thatched roofs.

ii) Mud floors and walls

iii) Planks spread over the mud floor and covered with matting.

The use of the huts shall be restricted to children, their attendants and mothers of the children.

7. CANTEENS :

A cooked food canteen on a moderate scale shall be provided for the benefit of workers if it is considered expedient.

8. SHEDS FOR WORKERS :

The contractor shall provide at his own expense, sheds for housing the workers. The sheds shall be on a standard not less than the cheap shelter type to live in which the workers in the locality are accustomed. A floor area of about 2 M x 1.5 M for two persons shall be provided. The sheds are to be in rows with 1.5 M clear space between the roofs if conditions permit. The workers, camp shall be laid in units of 400 persons, each unit to have a clear space of 12 M on each side.

SPECIAL CONDITIONS OF CONTRACT

1.00. General.

1.01. The work 'Special Conditions' shall be understood to cover all elements **effective in determining unit prices such as availability of materials,** price of materials, quantity and quality of available labour and their cost, or every other factors whatsoever, of major or secondary importance which has to be accounted for in quoting prices.

1.02. For the work covered by the Technical Specifications (Section IV) the bidder shall quote his percentage less/excess on ECV value based on the Bill of quantities (Schedule 'A') in words and figures.

Said percentage less/excess on ECV value shall bind on the bidders and shall include any expense whatsoever in connection with the delivery of materials at field site, the use of tools and equipment, cost of technical staff and labour and every other charge connected with and incidental to the complete and through execution of work.

1.03. The bidder shall make at his own risk and cost, before submitting his tender, all surveys he might consider necessary and he may carryout any market survey or technical enquiry he might required to check either the suitability of available materials or the site conditions, soil conditions etc. Permission to visit site will be granted to those bidders who have purchased the tender documents.

1.04 The contractor shall note that the scope of work and the quantity of individual items of work may vary to any extent (on the plus or minus side) as necessary during execution. The contractor shall be bound to execute all the work (including above variation in quantity of individual items) and Extra items or additional items of work shall be executed by him as per the relevant clauses of the contract. In awarding the work against the subject specification to the contractor, the APGENCO reserves the right to take out of the scope of the contract part of the work. The contractors shall have no claim for loss of profit sustained because some portions of the original contract have been allocated elsewhere, nor will this be reason for the contractors to increase/decrease the percentage for the remaining portion of the contract which he shall fulfill in accordance with the contract.

The preliminary estimated quantities given in the schedule 'A' are not to be taken as binding figures and they may vary to any extent. These quantities have been provided only for the purpose of providing a comparison of various proposals and to give bidder approximate information as to the amount of work to be performed. The total value of work actually carried out shall be measured and paid for.

1.05. The bidder shall submit with his tender the list of plant, equipment and personnel he will be employing for this to complete the work well within the scheduled completion time. The bidder shall also submit a detailed 'working schedule' showing the sequence of every separate job to the date of its scheduled completion. The bidder should submit a bar chart showing estimated employment of labour, skilled and unskilled and a detailed list of Engineers and other qualified staff the contractors will employ for the proper performance of work.

The contractors shall submit along with the bid general plan showing the following details for the approval of the APGENCO.

a) Labour quarters including sanitary services etc.
b) Contractor's field office.
c) Store for contractor's materials.
d) Garrage and parking place for his trucks and machines.
e) Places at which he needs bulk supply of electric power (2 points and quantities required)
f) System of movement of machines, trucks, Cars, labour inside the field as well as to go in and out of the construction sites.
g) Any other details and data necessary to give a general idea of his own arrangement and organization in the field.

1.06. Technical Specifications.

Technical specifications for major items are described in section IV of this document. For those items which may not be covered under Section IV, the Contractors shall follow CPWD/State PWD specification with the approval of the Engineer. If for any item of work detailed specifications are not indicated either in the Technical Specifications or CPWD/ State PWD then, the work shall be carried out as per the instructions of Engineer-in-charge.

1.07. Special Notes.

The contractor shall be responsible for any delay and damage except due to force majeure reasons which are generally beyond their control and for this full justification elaborating such circumstances shall be furnished by them.

1.08 The contractor shall be under no liability whatsoever for damage or destruction to the work or temporary work or materials and equipment or to property or like which is due to acts of God, earthquake, lightening, gale, typhoon, storm, hurricane, or act of any Government or Strikes or Lockouts or converted action of workmen or civil War (Whether declared or not) or sabotage explosion, Civil commotion, Police action, revolution, epidemics etc., destructive artesian conditions, nuclear fusion, or Radio active disturbances etc., which they have no control and directly or indirectly affecting the operation of the contract.

1.09 The contractor has to provide insulation for electrical cables if found necessary.

1.10 The contractor shall quote percentage less/excess on ECV value in the tender schedules.

1.11 The ECV value includes cost of all materials, labour, tools & plant, leads & lifts, seignorage, cess, etc., as applicable complete for finished item of work, but excluding the cost of cement and reinforcement steel which will be supplied by the department at free of cost.

The seignorage & cess etc., will be recovered from the bills of the contract and will be remitted to the concerned department.

1.12 The percentage less/excess on ECV value quoted for subject work shall be excluding EPF, ESI & GST which will be reimbursed by APGENCO upto a maximum of Rs. 6,44,769 (Rupees Six lakhs, forty four thousand, seven hundred and sixty nine only) towards EPF & ESI and Rs. 36,73,507.46 (Rupees Thirty Six lakhs, seventy three thousand five hundred seven and paise forty six only) towards GST on production of proof of actual remittances made and subject to the satisfaction of Engineer-in-charge

that the said contribution done is only for the workers employed on this work irrespective of the Scheme opted by the tenderer. APGENCO will not reimburse any excess payment made by the contractor for EPF & ESI due to misinterpretation of law or any other reason.

2.0 **Issue of Materials:**

The cost of materials if any supplied by APGENCO for execution of works within main plant boundary walls shall be secured by an indemnity bond in the prescribed proforma by the contractor. The indemnity bond shall cover the total value of materials issued by APGENCO to the contractor. In case of the works executed outside the main plant boundary, the materials shall be secured by the Contractor by submission of the bank guarantee from a Nationalized bank for the amount equivalent to the value of materials supplied. Materials will be issued only on furnishing Bank Guarantee.

3.00 Tenders quoted abnormally less, a B.G obtained in favour of SAO, Dr. NTTPS, Ibrahimpatnam on the State Bank of India/State Bank of Hyderabad or any nationalized bank for the difference between the tendered amount and 75% of the estimate value shall be furnished by the contractor invariably. The period of validity of B.G shall be for a minimum period of six months. This B.G. shall not bear any interest. On successful completion of the work, the B.G. will be returned to the contractor. The period of validity shall be extended by the contractor from time to time till the B.G. is returned.

In case of contractors failing to complete the work at their quoted percentage, the B.G. furnished will be forfeited by the APGENCO.

GENERAL CONDITIONS OF CONTRACT

1.0 DIFINITION & INTERPRETATIONS:

In these general conditions of contract the following terms shall have the meanings assigned to them except where the context otherwise required.

1.1 "OWNER/CORPORATION means ANDHRA PRADESH POWER GENERATION CORPORATION LIMITED, VTPS, Ibrahimpatnam, Krishna Dist. and shall include their legal representative, successors and permitted assignees.

1.2 The "Contractor " means the individual or firm or company whether incorporated or not, under taking for execution of works and shall include legal representatives of such individual or persons composing such firms or unincorporated company successors of such firms or company as the case may be, and permitted assignees of such individual or firm or company.

1.3 "Contract" means the notice inviting tender, the tender and acceptance there of and the formal agreement, if any, executed between Andhra Pradesh Power Generation Corporation Limited and the contractor together with the documents referred to therein including those conditions with appendices and any special conditions, the specifications, designs, drawings, schedule of quantities with rates and amounts and schedule of rates. All these documents taken together shall be deemed to form one contract and shall be complementary to one another.

1.4 The "Engineer-in-charge" means the engineering officer appointed by the corporation or his duly authorized representative who shall direct, supervise and be in charge of the works for the purpose of this contract.

1.5 "Work" means the works to be executed in accordance with the contract.

1.6 "Specifications" means the specifications forming a part of the contract for materials and works for the execution of the contract and as amplified, added or specified by special specifications, if any.

1.7 "Site" means the lands and or other place on, under on or through which the work is to be executed under the contract including any other lands or places which may be allotted by the corporation or used for the purpose of the contract.

1.8 "Letter of Award" shall mean the official notice issued by the OWNER notifying the contractor that his tender has been accepted.

1.9 "Guarantee period" shall mean the period during which the contractor shall remain liable for repair of any defect of the works performed under the contract.

1.10 Where the context so requires, words imparting the singular only also include the plural and vice-versa.

1.11 Heading & marginal notes to those General conditions shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction there of or of the contract.

1.12 All the documents pertaining to the contract including specifications, schedules correspondence etc., shall be written in English language.

2.0 CONTRACTOR TO INFORM HIMSELF THE FOLLOWING:

2.01 The contractor shall be deemed to have carefully examined all contract documents to his entire satisfaction. If he shall have any doubt as to the meaning of any portion of the contract documents, he shall, before signing the contract, set forth the particulars thereof and submit them to the corporation in writing in triplicate, in order that such doubts may be removed. The corporation will provide such clarification as may be necessary in writing to the contractor. Any information otherwise obtained from the corporation or the ENGINEER shall not in any way relieve the contractor of his responsibility to fulfill his obligations under the contract.

3.0 DISCREPANCES AND ADJUSTMENT OF ERRORS:

3.01 If there are varying or conflicting provisions made in any documents forming part of the contract, the Chief Engineer/Superintending Engineer shall be deciding authority with regard to the intention of document.

3.02 Any error in description, quantity or any omission there from shall not vitiate the contract or release the contract from the execution of the whole or any part of the works completed therein according to the specification or from any of his obligations under the contract.

3.03 If on check, there found to be differences, between the percentage less/excess on ECV value given by the contractor in words and figures by him in the Schedule of quantities and general summary the same shall be adjusted in accordance with the following rules.

a) In the event of a discrepancy between description in words and figures quoted by a tenderer, the description in words shall prevail.

b) The under signed does not bind himself to accept the lowest or any tender. The undersigned reserves the right to reject any or all tenders without assigning any reason.

c) Persons tendering must acquaint themselves and satisfy as to the physical conditions prevailing at the site.

d) No telegraphic/Fax offers will be entertained and APGENCO Ltd will not consider any postal delay.

e) The APGENCO reserves the right of deleting any or all items of the works mentioned in the schedule without assigning any reasons thereof. The tenderer will not be eligible to claim any sort of compensation in this regard.

f) The contractor shall provide to his workmen the required safety appliances including protective clothing and guards such as helmets, safety shoes, hand gloves, masks, safety belts etc., for working in Hazardous areas which shall be identified by the Engineer-in-charge.

i) The contractor will be required to work either in hot or cold areas, near machines in operation otherwise involving special care on part of the contractor to see that the work is carried out with safety to the men and machines and without hampering the working of the concerned departments of the corporations.

4.0 SUBLETTING OF WORKS:

4.01 The contractor shall not assign or sublet the contract or any part thereof, allow any persons to become interested therein in any manner whatsoever without the special written permission of the corporation. Any breach of this condition shall entitle the corporation to rescind the contract and also render the contractor liable for payment to corporation in respect of any loss or damage arising or ensuring from such cancellations. The permitted subletting of work by the contractor shall not establish any contractual relationship between the sub-contractor and corporation and shall not relieve the contractor of any responsibility under the contract. In the event of sufficient dues not being available to reimburse corporation for the expenditure incurred by it for the above contractor shall reimburse corporation for the same.

5.0 ELECTRICAL SAFETY REGULATIONS:

5.01 In no circumstances shall the contractor interfere with the fuses and electrical equipment belonging to the APGENCO or other contractors. Before the contractor connects and electrical appliances to any Board or Socket belonging to other contractors or APGENCO shall:

a) Satisfy and obtain permission of the Engineer-in-charge to that effect.
b) No electrical cable used by the contractor will be disturbed without prior permission.
c) No weight of any description will be imposed on any such cable and no ladder or equipment will rest against or be attached to it. No work shall carry or any live equipment without PERMIT TO WORK.

6.0 FIRE PROTECTION:

6.01 The work procedures that are to be used during the execution of work shall be those, which minimize fire hazards to the extent practicable. Combustible materials, combustible waste and rubbish shall be collected and removed from the site at least once in a day. Fuel oil, volatile or flammable materials shall be stored away from the work areas in safe containers. All the materials such as working drawings, documents etc., which are combustible but essential for the works to be executed shall be protected against combustion resulting from welding sparks, cutting, flanges and other similar fire sources, while doing welding, gas cutting work at elevated levels all care should be taken to protect sparks falling down by providing suitable coverage to avoid free fire and ensuring safety to personnel working in neighborhood.

7.0 SECURITY:

7.01 The tenderer/Contractor shall have total responsibility for all equipment and materials in his custody, loose, semi-assembled and/or erected serviced overhauled by him at site. The Tenderer/Contractor shall make suitable security arrangements including deployment of security personnel to ensure the protection all materials, equipment and works from theft, fire, pilferage and any other damages and loss.

8.0 DEFECT LIABILITY:

8.01 The contractor shall be responsible to make good and remedy at his own cost within such a period of 24 months by the Engineer-in-charge any defect observed during the course of execution or which may develop or may be noticed before the expiry of the period mentioned in the Guarantee clause on intimation of which has been sent to the contractor within seven days of expiry of the said period by a letter sent by hand or Registered post.

9.0 GUARANTEE:

9.01 The contractor shall guarantee that all items executed by him shall be free from all defects and workmanship. In case of any defects noticed in workmanship during the defect liability period of Twenty four (24) months after the completion of the work, the contractor shall have to arrange immediate replacement/rectification free of charges without any financial obligation to APGENCO.

9.02 APGENCO shall also be entitled to recover any losses direct or indirect incurred due to non-fulfillment of contractual commitment in this regard.

10.0 URGENT WORKS:

10.01 **If any urgent work (in respect where for the decision or Engineer-in-charge is final and binding) becomes necessary and the contractor is unable or unwilling at once to carry it out the Engineer-in-charge may by his own or other people, carry it out as he may consider necessary if the urgent work is such as a contractor is liable under the contract to carry out at his expense. All expenses incurred on it by the corporation shall be recoverable from the contractor and be adjusted or set off against any sum payable to him.**

SECTION – IV

TECHNICAL SPECIFICATIONS

1.00 GENERAL:

The specifications for various works should conform to the relevant clauses of the APSS, Earth manual of USBR and also to the special specifications included in the tender schedule. If there is any difference between them, the special specifications will be applicable. If for any item of work, detailed specifications are not indicated either in the technical specifications or in the APSS and Earth manual of USBR then that work shall be carried out as per the instructions of Engineer-in-charge. The execution of work and tests to be conducted during construction and on the materials shall conform to the latest relevant I.S codes.

2.00 TEST OF MATERIALS AND WORKS:

At any time the APGENCO or the consulting Engineer deem it necessary for purpose of acceptance of any work done by the contractor, test or analysis shall be performed according to work shall be carried out in accordance with the IS specification as far as applicable and if no IS specification is applicable, in accordance with any other standard method prescribed by the APGENCO.

Such tests shall be carried out either in the field laboratory (to be established by the contractor at his cost) or in any near by testing place to be approved by the APGENCO. Works for such tests shall include all materials required during execution of work. Contractor shall arrange all such tests to the satisfaction of the APGENCO at his/her own cost.

All expenses for all the tests and analysis mentioned above including expenses for transport of materials to Laboratories etc., shall be borne by the contractor. The quoted percentage less/excess on ECV value shall be inclusive of the above costs.

3.00. DRAWINGS:

Tender purpose drawings indicated in Schedule 'D' of this specification give a broad idea of the nature of the work to be carried out under this contract. These drawings may be supplemented or superseded and such additional general and detailed drawings showing dimensions and details more completely may be furnished as the work proceeds. The Contractor shall be required to perform the work in accordance with the final released for construction and/or additional general and detailed drawings mentioned above at the applicable unit prices tendered in Schedule-A. Should any discrepancy exists between the drawings and these specifications, or should any error be found in these, the contractor shall at once apprise the Engineer-in-charge and in no case proceed with the work with any uncertainty. All doubts must be clarified with the Engineer-in-Charge at once.

4.00. SURVEYING AND SOIL INVESTIGATION :

The Contractor shall make his own survey of the site, layout and establish baselines, bench marks and grades for all work areas including soil conditions in order to fully determine the site conditions as they exist at the time of bidding. Any soil report available with the Department may be inspected by the contractor. No extra claim due to the bidder's inadequate knowledge of the site conditions shall be entertained at any stage.

5.00 SCOPE OF WORK:

In general broad scope of work consists of **"Dr.NTTPS - Stage-III – Ash Pond – Providing rock toe with graded filters at EL(+)40.00M and Strengthening of Bund No.II with homogeneous soil(gravel) between EL(+)40.00M to EL(+)45.00M from Ch.530M to Ch.1400M "**. The work shall be complete in all respects under this specification shall include but not limited to the following.

6.00 Excavation in all kinds of soil:

6.01 Excavation in all kinds of soil including boulders up to 0.30m dia. for foundations of walls, drains and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc. complete with a lead of 2km and initial lift up to 3m including labour charges, etc. complete for finished item of work.

6.02 Excavation shall include careful removal of all materials of whatever nature and whether dry or wet, necessary for the construction of work, exactly in accordance with lines, levels, grades and curves shown in the plans or as directed by the Engineer-in-charge. It shall be taken to exact widths and levels of the lowest step of foundation /footing and the sides shall be left to plumb where the nature of the soil permits. Any shoring, strutting and timbering or cutting of extra widths of trenches required for providing working space shall be done by the contractor and the same shall be deemed to have been included in the quoted rate. The contractor shall notify the Engineer-in-charge before starting excavation and take cross section levels (for purposes of measurements) jointly with the Engineer-in-charge before the ground is disturbed. The bottom of the foundation shall be leveled both longitudinally and transversely stepped as directed, the contractor shall provide suitable arrangements to prevent surface water from any source entering the foundation pits at his own cost.

6.03 No blasting shall be permitted for excavation of foundations without prior permission of the Engineer-in-charge. The contractor shall not undertake any concreting in foundation until the excavation pit is approved by the Engineer-in-charge. The excavation shall be kept away from water.

6.04 All materials excavated from the foundation of whatever kind they shall be placed at a distance or more than 1.5M from the edge of the foundation or as directed by the Engineer-in-charge. All excavated material shall remain the properties of the APGENCO. Material suitable for filling or other use shall be stacked in places as directed by Engineer-in-charge. Surplus earth and soil which are not useful shall be removed and conveyed with an initial lead as directed by Engineer-in-charge.

6.05 The quoted rate shall include cleaning of site, setting out and works required for excavation, cost of excavation, blasting materials if any, include bailing or pumping of all water which may accumulate in the excavation during the process of work either from seepage, rain or any other cause in the excavated pit, stacking of excavated earth, shoring, removal and disposal of surplus excavated soil from the construction site if any, with initial leads and lifts, labour charges, cost of T&P etc., complete for finished item of work as directed by Engineer-in-charge.

6.06 TESTING AND ACCEPTANCE CRITERIA

Excavation

On completion of excavation, the dimensions of the pits will be checked as per the drawings after the pits are completely dewatered. The work will be accepted after all undercuts have been set right and all over excavations filled back to required lines,

levels and grades by placing ordinary concrete of (1:4:8) proportion and/ or richer and/ or by compacted earth, as directed by the Engineer, at the Contractor's cost. The choice of grade of concrete will be a matter of unfettered discretion of the Engineer. Over excavation of the sides will be made good free of cost by the Contractor while carrying out the back filling. The excavation work will be accepted after the above requirements are fulfilled and all temporary approaches encroaching inside the required dimension of the excavation have been removed

6.07 Earth work excavation shall confirm to Specification No. 308 of APSS.

6.08 Mode of Payment:

Payment shall be worked out and made in cubic meters (1Cum) for finished item of work.

7.00 Plastering with CM (1:4) 20mm thick:

Plastering with CM(1:4) 20 mm thick to RR masonry walls including cost and conveyance of all materials, labour charges, mixing charges for mortar, curing with all leads and lifts etc., complete for finished item of work and as directed by the Engineer-in-charge but excluding cost of cement which will be supplied by the department at free of cost.

7.01 Mode of payment:

The payment shall be made on the basis of Square Meters (1Sqm) for finished item of work.

8.00 AGGREGATES FOR P.C.C/ R.C.C WORKS

8.01 Coarse Aggregate:

Aggregate of sizes ranging between 4.75 mm & 150 mm will be termed as Coarse Aggregate. Only Coarse Aggregate from approved quarries & conforming to IS: 383 will be allowed to be used on the works.

8.01.1 Crushing value:

The aggregate crushing value, when determined in accordance with IS: 2386 (Part IV) shall not exceed forty five (45) percent for aggregate used for concrete other than for wearing surfaces, and thirty (30) percent for concrete for wearing surfaces, such as roads, pavements and floor finishes.

8.01.2 Impact value:

As an alternative to aggregate crushing value, the aggregate impact value may be determined in accordance with the method specified in IS: 2386 (Part-IV). The impact value shall not exceed forty five (45) percent by weight for aggregates used for concrete other than for wearing surfaces and thirty (30) percent by weight for concrete for wearing surfaces, such as roads, pavements and floor finishes.

8.01.3 Abrasion value:

Unless otherwise agreed to between the Purchaser and the supplier the abrasion value of aggregates, when tested in accordance with the method specified in IS: 2386 (Part-IV), using Los Angeles machine, shall not exceed the following values:

a	For aggregates to be used in concrete for wearing surfaces	Thirty (30)
b	For aggregates to be used in other concrete (structural)	Fifty (50)

8.02 Fine Aggregate:

Aggregate smaller than 4.75 mm and within the grading limits and other requirements set in IS: 383 is termed as Fine Aggregate or Sand. Only Fine Aggregate from approved sources and conforming to the above IS Specification will be allowed to be used on works.

9.00 CONCRETING

9.01 Composition:

Concrete shall be composed of cement, sand or fine aggregate, broken rock or coarse aggregate and water, all machine mixed and brought to proper consistency. Whenever so ordered by the Executive Engineer, admixtures shall be added. The exact proportion of each type of aggregate listed in these specifications will be determined from time to time on the mechanical analysis of the aggregate stock piles and tests of resulting concrete test cubes, or cylinders. In general, the design mix proportions be adjusted to produce a durable plastic and workable concrete suitable for the specific conditions of placement and design strength.

9.02 Sampling:

Sampling of fine and coarse aggregate and cement will be done periodically in accordance with standard practice, and tests made under the supervision of the quality control Engineer. Also the routine tests shall be made in various stages of batching operations for which the contractor shall provide all facilities necessary for procurement of representative samples for which no payment shall be made.

9.03 Slump tests:

All slump tests be made in accordance with recommended procedure given IS code 1199-1959 for reinforced concrete. The slump preferred to, shall be determined when the concrete is about to be deposited as such less slumps within the limits will be required as may, in the opinion of the Executive Engineer, be practicable to produce concrete of better quality and of greater economy. Greater slump (but in all cases limited to 6” (15 cm) maximum than those specified in the table) will be permitted in exceptional cases, wherein the opinion of the Executive Engineer, internal vibration of the concrete is not practicable and where especially authorize by the Executive Engineer for concrete in position, specially difficult for placement as in thin or heavily reinforced section.

9.04 Strength requirement:

The strength requirements of concrete proposed to be used for various items of work shall be as follows.

S.No.	*Grade of concrete*	*Compressive strength of 15 cm cubes at 20 days after mixing conducted in accordance with IS: 516-1959*		*Max. size of aggregate*	*Slump*
		Preliminary test Min.	*Work test Min*		
1.	M10	---	10 N/mm^2	40 mm size graded metal as specified	----
2.	M20	26 N/mm^2	20 N/mm^2	20 mm size graded metal as specified	25 to 40 mm.
3.	M25	32 N/mm^2	25 N/mm^2	20 mm size graded metal as specified	25 to 40 mm

Where compressive strength tests of cylinders are adopted the compressive strength given above for cubes shall be modified according to the following formulae.

Maximum cylinder compressive strength required } 0.8 x compressive strength specified for 15 cm cubes.

The required strength mentioned in the table are minimum crushing strength of 'work test' cylinders that must be obtained on cylinders made from concrete, either at the batching plant or at the placing point, and standard cured. The 28 days strength is the average strength of 3 test specimen taken from a single batch provided that not more than 10% of specimens tested shall have strength less than 80% of the required strength. The average strength of all tests for a given period shall equal or exceed the required strength. If the average crushing strength is higher, the contractor shall not be entitled to any increase in payment of work on account of the actual strength being above the minimum specified. In addition to the 28 days strength tests, the Executive Engineer may at his discretion make 7 days strength tests. The minimum 7 days strength realized will not normally be less than ⅔rd of the minimum 28 days strength specified. The exact relation will be fixed on the site after studying the actual values realized. If at any time, the 7 days strength indicate that the strength of 28 days may not be achieved, as specified the Executive Engineer shall have the authority to suspend concreting operations, until the reasons have been investigates and corrected and/ or the mix has been redesigned etc., and the contractor shall comply herewith without such suspension being made a reason for any claim.
The concrete for testing shall be collected as it comes out of the mixer once or more often as the Executive Engineer may direct, and in quantity sufficient to prepare at least 3 test pieces from each sample. The compressive strength of concrete shall be determined through the medium of tests of (15 x 30 cm) cylinders. If cylinders are made they shall be made and cured in accordance with relevant Indian Standard Specification.

In addition to the strength tests carried above, it is contemplated that the tests on actual cores from the concrete laid in position shall be made, and results thereof shall not be in any case lower than those of the test pieces. If the cores taken out show unreasonably low results the work is liable to be rejected and may be required to be dismantled and redone with all consequences to the contractor. The tests shall be carried out by the contractor at his own cost and as directed by the Executive Engineer and the contractor shall afford all reasonable facilities for taking the test cores.

The contractor shall also arrange to fill the test holes left by the removal of the cores with concrete of the required strength without any extra payment and to the satisfaction of the Executive Engineer.

The contractor shall at all times have access to and associate with sampling, design and tests of trial mixes, tests of strengths and similar other operations. It shall then be the contractor's responsibility to rebooting on the works, concrete of quality, density and strength corresponding to the laboratory and test designs.

The laboratory mix will be so designed that the minimum strength achieved on the laboratory test cylinder is about 25% higher than that specified above that concrete has a density of 155 lbs/ cft or more 2486 kg/m^3 and as impermeable as can be made. The same mix shall be used in the field to assure the achievement of quality specified.

Failure on the part of the contractor to associate with the operations aforesaid shall not absolve him of the responsibility of producing on the works concrete of specified quality, density and strength with design mixes determined from laboratory tests and results.

9.05 Water cement Ratio

The water cement ration will be regulated by the requirements of workability and design, but in general will not exceed 0.45 by weight, exclusive of water absorbed by the aggregates. The amount of water shall be adjusted for any variation in the moisture content or the grading of the aggregate as they enter the mixer in any batch and shall not be more than the minimum necessary to produce concrete of the required consistency after making period specified in general or from time to time. Uniformity shall be maintained in the consistency of concrete from batch to batch.

9.06 Proportioning of concrete:

The exact proportions in which the different gradients are to be used from the different parts, of the work shall be determined by the contractor in any one of the recognized laboratories under the supervision of the departmental staff after trial mixes, the structural concrete is to be commenced only after establishing the cement in each grade of mix as per IS: 456-2000. The cost on account of laboratory test shall be to the account of the contractor.

9.07 Cement content:

The cement content is specified as the specific weight of cement used in the manufacture of 1 Cum of concrete as measured in the finished work after vibration, consolidation, setting and curing. The actual volume of different gradients that would go in, in a batch of concrete to produce the specified volumetric unit shall be determined by tests and the cement content specified shall be put in for each batch supposed to produce the same unit of concrete in place is determined by the tests.

Any variation in the cement content shall also be similarly treated. No extra payment or deductions shall be made for variations in the several in-gradients except in cement content, which shall be adjusted as described. Variations in proportions of crushed metal and natural sand will not be considered for purposes of price variation.
If for any reasons it is found necessary to resort to volumetric batching instead of weigh batching which shall be subject to the specific approval of the Executive Engineer. The

proportion of cement (by volume) to that of the various aggregates also by volume shall be so adjusted that the cement content in the specific volumetric unit of finished concrete, shall not be less than that specified for the relevant class of concrete. For this purpose one bag of cement as supplied by cement manufactures shall be taken as 1.225 cft or 50 kgs.

9.08 Admixtures:

The Executive Engineer shall have the authority at any time, and from time to time to order the addition of any air entraining agent or other admixtures, to any mix of concrete in such proportion or quantity or mode, as he may specify and the contractor shall comply with the same.

The Executive Engineer shall have the authority to arrange for the supply of the admixtures or admixtures aforesaid, through the contractor (by mutual agreement) or by other agency, as the Executive Engineer may deem fit. Should the mixing entail any additional expenditure to the contractor by way of additional plant, equipment, or operations, the same shall be paid for at actual cost, as may be determined by the Executive Engineer whose decision shall be final and binding upon the contractor.

The contractor shall not, without the written consent of the Executive Engineer, add any admixtures, to any mix of concrete and whenever such an admixtures is permitted, the Executive Engineer shall determine the adjustment in price if any, that should be made in consequence. The decision of the Executive Engineer shall be final and binding on the contractor.

9.09 Handling of aggregates:

The contractor shall at all times, maintain a live storage of all grades of aggregates of at least one week's requirement of work.

9.10 Check tests for equipments:

The tests shall be made in the presence of APGENCO representatives and shall be adequate to prove the accuracy of the measuring devices. Unless otherwise directed, tests shall be made once in two weeks in the case of all other scales. The contractor shall make such adjustments, repairs or replacements may be necessary to meet the specified requirements for accuracy of measurements.

Detailed drawings showing reinforcement details will be supplied by the department during the course of execution.

All materials shall conform to standard specification, IS and are to be approved by the Engineer-in-charge prior to their usage in the work. For this purpose, the contractor shall whenever called up to do so, furnish samples of materials in adequate quantities and carryout all tests on materials and concrete specimens. Testing shall be done in close liaison with Engineer-in-charge or his representative and methods of test shall conform to the relevant IS Specification. Test results also shall conform to the IS Specification. The cost of samples and testing shall be borne by the contractor.

No concrete work shall be done in the absence of the Engineer-in-charge. Before placing the concrete, the Engineer-in-charge shall have inspected and approved all

reinforcement in place, formwork, centering and scaffolding for concrete. At least 24 hours notice shall be given for this purpose.

All concrete works shall be machine mixed, vibrated for proper compacting unless otherwise specified by Engineer-in-charge.

Transportation and placing methods and adequacy of equipment and procedure shall be studied in advance. All form work, reinforcement steel and location and details of embedded parts etc., shall be checked and approved by the Engineer-in-charge. Construction joints shall be made at only those positions shown on the drawing or at locations approved by the Engineer-in-charge.

All sleeves, inserts, anchors and embedded items required for adjacent work or for its supports shall be placed prior to concreting. Care shall be taken not to displace reinforcement and embedded parts during the placing and compaction of concrete.

Curing of concrete shall start after 8 hours of placement, and in hot weather with in 4 hours of placement in exposed faces, and kept continuously wet preferably by continuous spraying of water after the final set for a period of at least 10 days from the date of casting, if the temperature of atmosphere during the period has been continuously above 10^0 C. When the temperatures are higher, the Engineer may extend the curing period for a suitably longer period.

The quoted rate for concrete shall include cost and conveyance of all materials (except basic rate of cement and reinforcement steel), labour, tools and tackle, plant and equipment, scaffolding, staging, form work, centering and shuttering, curing, leads and lifts, other incidental charges etc. complete for finished item of work. The quoted rate shall also include, wherever applicable, the cost of placing, keeping in position any embedments or inserts, openings, joints etc., as shown in the drawings and as directed by the Engineer-in-charge. Fabrication charges for reinforcement steel shall be paid separately.

9.11 Mode of Payment:

Payment for the concrete shall be made on the basis of cubic metre (Cum) for the finished item of work.

The concrete in place shall be measured length, breadth and depth or thickness limiting the dimensions to those specified in the drawings or as directed by the Engineer-in-charge. No deductions shall be made for volume occupied by the reinforcement steel and for voids formed by the rain water pipes, ducts and embedded parts and other voids and recesses having less than 65 cm^2 cross sectional area.

10.00 **Providing PCC CM(1:2:4) nominal mix:**

Laying Plain Cement Concrete(1:2:4) grade Nominal mix with 10mm and 6mm size 50% each machine crushed HBG metal including cost and conveyance of all materials, seigniorage charges, all labour charges for mixing, placing, curing charges with all leads and lifts etc., complete for finished item of work and as directed by Engineer in

charge but excluding the cost of cement which will be supplied by the department at free of cost.

10.01 Mode of payment:

The payment shall be made on the basis of cubic meter (Cum) for finished item of work.

11.00 Supply & laying of filter with 50% of 12mm and 50% of 20mm HBG graded metal:

Supply and laying of filter with 50% of 12 mm and 50% of 20mm HBG graded metal at different elevations including cost and conveyance of filter media, screenig charges, all leads & lifts, all labour charges for laying filter etc., as directed by the Engineer - in - Charge.

11.01 Mode of Payment:

Payment shall be worked out and made in cubic meters (1Cum) for finished item of work.

12.00 Providing & Construction dry rubble stone for Rock Toe:

Providing and construction dry rubble stone for Rock toe and toe drain using 300 mm & above size HBG stones including cost & conveyance of all materials, machinery, labour charges, hand picking rubble and stone chips, finishing top and sides to the required slopes as per the approved drawings etc., complete for finished item of work as directed by the Engineer-in-charge.

12.01 Mode of Payment:

Payment shall be worked out and made in cubic meters (1Cum) for finished item of work.

13.00 Supply & Spreading of well graded river sand:

Supply & spreading of well graded river sand filter of approved quality for providing sand filling along the slope of rock toe with specified thickness as per the approved drawings & specifications including cost & conveyance of sand, all labour charges, all leads & lifts etc. complete for finished item of work as directed by the Engineer-in-charge.

13.01 Mode of Payment:

Payment shall be worked out and made in cubic meters (1Cum) for finished item of work.

14.00 Providing & Constructing graded filter media:

Providing and constructing graded filter media below and behind rock-toe consisting of 0.10m thick of 6-10mm, 0.1m thickness of 20-10mm and 0.1m thick 40-20mm size HBG metal satisfying filter criteria as per the approved drawings & specifications including cost & conveyance of all materials, all labour charges, all leads & lifts, machinery, laying to

required slope, compaction etc. complete for finished item of work as directed by the Engineer-in-charge.

14.01 Mode of Payment:

Payment shall be worked out and made in cubic meters (1Cum) for finished item of work.

15.00 Construction of embankment with Homogeneous soil:

Construction of embankment with homogeneous soil of gravel from approved borrow areas for formation of bund to the required section as per specifications & approved drawings including cost of labour, materials, hire charges of equipment for excavation, compaction, loading, transportation & unloading, spreading in layers not exceeding 250 mm, removal of roots & undesirable materials, breaking clods and sectioning including scarifying the previous compacted layer and including formation of approach and ramps, watering, compacting each layer to density control of not less than 95% modified proctor density with 8 Tonne vibratory pad/sheep foot roller and including benching of old embankment, roller allowances, trimming the side slopes to the designed section, following all precautions and necessary safety measures etc.,complete for finished item of work as directed by the Engineer-in-charge.

15.10 GENERAL:

This involves providing embankment with homogeneous soil of gravel from approved borrow areas for formation of bund to the required section as per specifications & approved drawings.

15.20 SITE PREPARATION:

CONSTRUCTION SITE:

The existing Slope of the Bund for strengthening of bund shall be leveled, rolled, cleared of all vegetation, roots and other objectionable matter and shall be stripped to a depth of 150 mm. Excavated material shall be deposited in low lying areas as directed by Engineer-in-Charge.

15.3 MATERIALS: Gravel cover over the ash bund with lead specified by Engineer-Incharge.

15.3.1 TRANSPORTING THE MATERIALS:

All necessary arrangements shall be made by the CONTRACTOR to transport the material from the borrow area to the construction site at his own cost. The CONTRACOR shall have sufficient necessary equipment, machinery etc., to transport the materials.

15.3.2 FIELD LABORATORY:

To ensure strict quality control, the CONTRACTOR shall set up a fully equipped field laboratory at his own cost, capable of conducting relevant tests on soil/ash. All the equipment shall be calibrated to the complete satisfaction of the OWNER and the ENGINEER-IN-CHARGE before any test is conducted. The expenses towards setting up and operating the field laboratory are deemed to be included in the item rates in the schedule 'A'.

15.3.3 PLACING THE MATERIAL:

No vegetation, roots, organic matter and any other objectionable material as specified by Engineer-in-Charge shall be placed in the fill.

Materials of approved quality shall be delivered for the fill at uniform rate and the sufficient quantity to permit a satisfactory construction. Successive loads shall not track each other on top of the bund and unnecessary concentration of travel tending to cause deep ruts,

laminations or uneven compaction shall be avoided. Before a new layer is deposited, existing objectionable unevenness in the surface of any lift shall be removed and the surface of the lift shall be scarified to a depth not exceeding 75 mm and roughened by rolling disking, or ploughing in order that a bond maybe obtained with the material to be super-imposed. If the compacted surface of any layer of earth/ash fill is too wet, to give proper compaction of the layer to be placed thereon, it shall be removed, allowed to dry or be worked with barrow, scarifier or any other suitable equipment to reduce moisture content to the required amount, and then it shall be re-compacted before next succeeding layer of earth fill material is placed.

The transported material shall be placed on the compacted surface to a loose thickness of 200 mm soil in each layer.

The CONTRACTOR shall do field laboratory tests to determine the proctor density & optimum moisture content and its maximum dry density for the material collected from different borrow zones at his own cost.

The moisture content of the spread material shall be equal to its optimum moisture content (OMC). If it is less than its OMC, then additional moisture shall be added preferably at borrow pit itself. If the moisture content is more than its OMC, then it shall be dried up to its OMC before laying on compacted surface.

The material shall be deposited starting from the lowest portion of the bund in rows approximately parallel to the axis of the bund and spread into uniform layer. Loads shall be dumped and spaced such that the process of spreading shall produce thickness of spread layer not exceeding the thickness mentioned above before compaction.

The bund shall be brought up in approximately and shall be maintained with a cross section for drainage having side slopes not exceeding 1 in 2.5.

15.4 <u>COMPACTION</u>:

15.4.1 <u>GENERAL</u>:

The loosely spread material shall be compacted by suitable compacting equipment as mentioned below to achieve the required compaction. Filling material shall be spread in layers not exceeding thickness specified. Addition of water shall be by means of sprinklers. All compaction shall be done under controlled condition. Field tests shall be carried out in presence of ENGINEER-IN-CHARGE to determine the compacted density. Vibratory pad/sheep foot rollers of 8 T capacity shall be used to compact ash layers. The number of passes required to achieve the required density equal to 98% of maximum dry density (Proctor test as per American Association of State High way Officials) shall be assessed at site in presence of ENGINEER-IN-CHARGE and the same shall be followed. If the compacted density at particular zone comes less than the required, then the CONTRACTOR shall do additional more number of passes in the zone so that it reaches the required density.

Rolling shall be commenced from the outer edge and progress towards center. Compaction shall be done to the required standards. While working out the embankment i.e., earth cover over ash bund an extra provision of 600 mm shall be made on sides so that roller may be taken as close as possible to the extreme edges. Later the extra 600 mm width earth shall be neatly trimmed and trimmed material reused in the earth cover at higher elevations. No extra cost will be paid on this account and quoted rate is deemed to be inclusive of same.

All precautions shall be taken by the CONTRACTOR and he is responsible to protect the bund during construction period. Any portion of the bund which is damaged due to rain or in any other way, the same shall be repaired to the specification at his own cost. The APGENCO will not pay any extra payment for the same.

The earth fill shall be properly shaped and trimmed to the slopes as shown in the drawing.

In those parts of the structure inaccessible by the roller equipment, compaction shall be done by mechanical tampers. Rollers will not be permitted to operate within one metre from concrete structures, R.R. Masonry structures and all fill within this distance shall be spread in layers not more than 100 mm loose thickness. The moisture content of the material and amount

of tamping shall be such as to produce the degree of compaction equal to specified for rolled fill.

Field tests shall be carried out on compacted layers, as required by the ENGINEER-IN-CHARGE, by the CONTRACTOR at his own cost. Field density tests by core cutter method as per IS code (IS 2720, Part XXIX) or any other method specified by Engineer-in-charge shall be carried out. In general, one field density shall be conducted for every 500.00 cum of fill, with at least one test per shift. Contractor's rate shall be deemed to include all such tests and no separate payment will be made for the same.

In case the compacted density found in field tests is less than the required then more number of passes shall be done in the relevant zones to the satisfaction of ENGINEER-IN-CHARGE.

Prior to placing each layer, previously compacted layer shall be scarified to a depth not greater than 75 mm to have bonding between both layers. The methodology for strengthening of the bund for the proposed length of the bund with homogenous soil as cover shall be furnished by the contractor immediately after award of works and got approved by Engineer-in-charge.

15.5 CONSTRUCTION OF JOINTS:

A construction joint shall mean a compacted fill surface made to a slope exceeding the slope of bonding surface but not exceeding 1 vertical to 3 Horizontal. A bonding surface shall mean a compacted fill surface made to slope not exceeding 1 vertical to 3 Horizontal.

Prior to placing a layer of fill material against previously placed fill at any construction joint, the surface materials at the joint shall be cut back horizontally to a distance sufficient to accommodate a layer of the fill material to be placed, but in any event, to horizontal distance of one metre in excess of that required to expose a dense face of the previous placed and compacted fill and in height equal to the thickness of the layer to be placed.

All loosened and dried soil from the surface of the construction joint shall be removed or reconditioned for use. Prior to placing each layer on the freshly exposed surface, such surface shall be scarified if necessary. The freshly placed fill at construction joints shall be placed and compacted as specified except that the rolling pattern of the compaction equipment shall be so adjusted in the region of the joints that compaction shall be carried over the edge of the newly placed fill into the previously placed fill by a minimum of one metre measured horizontally.

No cutting back is required at bonding surface, but all loose material shall be removed from the surfaces before placing new material.

15.6 TRIMMING:

The compacted bund shall be shaped and trimmed according to the typical Section shown in the drawings. Trimmed material found suitable for construction shall be used and the remaining shall be deposited in low lying area as directed by ENGINEER-IN-CHARGE. Trimming the sides to the required slope as per drawing shall be done by the contractor during the progress of work and completion of work. No separate payment shall be made for trimming the bund. The Contractors rate for construction of bund deemed to include all such activities.

15.7 INSPECTION, FIELD TESTS:

It is necessary to maintain a thorough check on the quality of fill materials delivered to the ash bund and that the data and in-situ properties of the materials after compaction be obtained for comparison. To achieve these objectives, a programme of field testing and inspection shall be planned to effect quality control as approved by the ENGINEER-IN-CHARGE.

15.8 SCOPE OF TESTING AND INSPECTION REQUIRED:

Field control of fill materials will require visual and laboratory checks. The checks on the effectiveness of placement and completion procedures will require to be made by field density tests at prescribed intervals. The control shall be both on the method, type and / or on an end result basis.

15.8.1 BEFORE COMPACTION:

Materials delivered to the fill shall be visually examined and their properties estimated by way of inspection. These checks shall include:

a) BORROW AREAS:

i) Excavation of borrow areas shall be limited in extent and depth as directed by Engineer-in-charge.

ii) Estimation of moisture content of material by visual examination and feel.

iii) Samples shall be taken for laboratory analysis in case of soil is of different characteristics.

These inspection checks shall be supplemented by sampling materials at prescribed minimum intervals and by testing the samples in the laboratory for gradation and moisture content.

b) CONSTRUCTION SITE:

i) Water content tests shall be carried out in the field laboratory while placing the fill materials.

ii) Moisture content shall be controlled by adding water or aerating the soil according to laboratory test results.

iii) It shall be ensured that the methods of dumping, spreading and moisture conditions are such that it results in reducing segregation and variation of moisture content to a minimum.

15.8.2 TESTS DURING COMPACTION:

It is intended that the checks on operations during compaction shall verify:

a) That the layer thickness of the materials is as specified.

b) That the fill is compacted by the specified number of passes of the specified machinery.

c) That no excessive rutting, weaving or scaling of the fill occurs during compaction.

15.8.3 TESTS AFTER COMPACTION:

The condition of the fill after compaction shall be observed and recorded particularly with respect to rutting or weaving. However, the properties of materials after compaction shall be determined primarily by field density tests. Routine tests on samples taken from constructed embankments shall include, grain size distribution and Atterberg's limits, besides density tests.

15.8.4 REPORTS:

Day to day progress records of embankment placing operations and field control test records shall be made during construction so that a complete description of materials in any portion of the embankment shall be available. The records shall be maintained on forms specified for the purpose and countersigned by the Engineer-in-charge.

15.9 PROTECTION & MAINTENANCE:

15.9.1 GENERAL:

During the progress of work, the bund shall be maintained in the satisfactory manner until final completion. Any material that is lost by weathering causes shall be suitably and properly replaced. The contractor has to make drainage arrangement for disposal of rain water, seepage water etc., at his/her own cost during the construction. No extra cost will be paid on this account. The quoted rate is inclusive of the same.

15.9.2 PROVISION FOR THE LONG TERM SETTLEMENTS:

While forming the ash dyke embankment provision shall be made to maintain the top of ash dyke at designed elevation a due allowance of 2(two) percent of the vertical height shall be made to allow for settlement without any extra payment.

15.10 MEASUREMENT:

Existing levels shall be jointly recorded before commencement of work and during construction for making progress payments. The contractor shall carry out survey/ take levels for which no extra cost will be paid.

Measurement for all the materials in the various zones going into formation of the bund will be worked out on volumetric basis. The volume of sand to form sand filter as per the drawing will be deducted from the volume of bund material, for the payment of bund material.

15.11 PAYMENT:

The payment shall be made for finished item of work in Cubic meters (Cum)
The unit rate in the schedule shall include the following:

a) Excavation of approved type of soil from the proposed berm areas.
b) Removal of unsuitable materials.
c) Formation of Approach and Ramps.
d) Loading into trucks and conveyance, unloading the earth on the embankment.
e) Sectioning including scarifying the previous excavated slopes.
f) Breaking clods and removal and disposal of remaining unsuitable materials.
g) Layout, construction and maintenance of haul/roads and ramps.
h) Spreading the soil embankment material, sectioning, watering and consolidation to 200 mm thick layers including scarifying the earlier compacted layer before spreading the next layer.
i) Maintaining borrow areas free from vegetative growth, irrigation in borrow areas for obtaining the required moisture content of fill, drainage of borrow pits and embankment.
j) Trimming the slopes to the required section.
k) Miscellaneous expenses on safety devices, labour amenities and quality control tests etc.,

15.12 Mode of Payment:

Payment shall be worked out and made in cubic meters (1Cum) for finished item of work.

16.00 Laying PCC(1:4:8) nominal mix:

Laying PCC(1:4:8) using 40mm & 20mm each 50% of HBG metal for levelling course including cost and conveyance of all materials, labour charges for mixing, placing, ramming, curing with all leads and lifts etc., but excluding cost of cement which will be supplied by the dept. at free of cost. complete for finished item of work and as directed by the Engineer-in-charge.

16.01 Mode of payment:

The payment shall be made on the basis of cubic meter (Cum) for finished item of work.

17.00 Construction of RR Masonry:

Construction of RR masonry work at different elevations with CM (1:5) for berm and chute drains on down stream side slope of the Bund including cost & conveyance of materials, curing, scaffolding charges, all leads & lifts, all labour charges & other incidental charges etc.,complete for finished item of work as directed by the Engineer-in-charge. (But excluding cost of cement which will be supplied by department at free of cost at Dr.NTTPS central stores).

17.01 Mode of Payment:

Payment shall be worked out and made in cubic meters (1Cum) for finished item of work.

18.00 Providing & Constructing graded filter media:

Providing and constructing graded filter media below the rock-toe consisting of 0.1m thickness of 20-10mm and 0.1m thickness of 40-20mm size HBG metal satisfying filter criteria as per the approved drawings & specifications including cost & conveyance of all materials, all labour charges, all leads & lifts, machinery, laying to required slope, compaction etc. complete for finished item of work as directed by the Engineer-in-charge.

18.01 Mode of Payment:

Payment shall be worked out and made in cubic meters (1Cum) for finished item of work.

SCHEDULE – B

ISSUE RATE OF MATERIALS

Name of work: Dr.NTTPS - Stage-III – Ash Pond – Providing rock toe with graded filters at EL(+)40.00M and Strengthening of Bund No.II with homogeneous soil(gravel) between EL(+)40.00M to EL(+)45.00M from Ch.530M to Ch.1400M

S.No.	Description of Material	Rate per MT	Source of Supply
1.	Cement	Free of cost	Dr. NTTPS Stores

TENDERER

SCHEDULE – C
LEAD STATEMENT

Name of work: Dr.NTTPS - Stage-III – Ash Pond – Providing rock toe with graded filters at EL(+)40.00M and Strengthening of Bund No.II with homogeneous soil(gravel) between EL(+)40.00M to EL(+)45.00M from Ch.530M to Ch.1400M

S.No.	Description of Materials	Lead in KM	Source of supply
1.	Cement	3	Dr.NTTPS Central Stores
2.	Reinforcement Steel	3	Dr.NTTPS Central Stores
3.	Sand for filling	20	Kanchikacerla
4.	Sand for mortar	20	Kanchikacerla
5.	Fine Sand (Screened)	20	Kanchikacerla
6.	6mm HBG crushed metal	7	Local Quarry
7.	10mm HBG crushed metal	7	Local Quarry
8.	12mm HBG crushed metal	7	Local Quarry
9.	20mm HBG crushed metal	7	Local Quarry
10.	25mm HBG crushed metal	7	Local Quarry
11.	40mm HBG crushed metal	7	Local Quarry
12.	RR stone	7	Local Quarry
13.	Boulders of size 300mm for pitching	7	Local Quarry
14.	Quarried stone	7	Local Quarry
16.	Gravel	30	Mangalagiri

Note: No extra lead will be payable under any circumstances.

TENDERER

SCHEDULE – D

LIST OF TENDER PURPOSE DRAWINGS

Name of work: Dr.NTTPS - Stage-III – Ash Pond – Providing rock toe with graded filters at EL(+)40.00M and Strengthening of Bund No.II with homogeneous soil(gravel) between EL(+)40.00M to EL(+)45.00M from Ch.530M to Ch.1400M

S.No.	Title
1	The drawings pertaining to the subject work are available at head quarters and site. Interested bidders are requested to obtain the soft copies of drawings either from head quarters or site office.

(TO BE STAMPED IN ACCORDANCE WITH INDIAN STAMPACT)

PROFORMA OF BANK GUARANTEE FOR T H E EARNEST MONEY DEPOSIT (EMD)

Bank Guarantee No:
Date:
Valid Upto:
Claim Period up to:

In consideration of the Andhra Pradesh Power Generation Corporation Limited (An enterprise of the Government of Andhra Pradesh) (hereinafter referred to as 'APGENCO' which expression shall unless repugnant to the context or meaning thereof, include its successors and permitted assigns) incorporated under the Indian Companies Act, 1956 read with subsequent amendments and Act(s) and having its registered office at Vidyut Soudha,Gunadala, Vijayawada, Andhra Pradesh,India-520004 having agreed to exempt (Name of the Tenderer/Vendor/Contractor/Supplier) having its registered office at (herein after called the said Tenderer/Contractor which term includes Supplier),under the term said conditions of the Tender Notification No. , Dated payment of EMD of Rs… …… …(Rupees ----------only) is payable part of EMD for the due fulfillment by the said Tenderer/ Contractor of the terms and conditions contained in the said Tender for_____ ,on production of a Bank Guarantee for Rs. _____(Rupees_____only).

At the request of _____[Tenderer/Contractor] We, ……, (herein after referred to as the "Bank"), having Registered/Head office at ……. and a branch at …… being the Guarantor under this Guarantee, do hereby irrevocably and unconditionally undertake to forthwith and immediately pay to the APGENCO without any delay or demur, merely on your first demand any sum or sums up to a maximum amount but not exceeding Rs ---------- (Rupees----------).

We undertake to pay unconditionally to the APGENCO any money so demanded not withstanding any dispute(s) raised by the Tenderer/Contractor in any suit, or proceedings pending before any Court or Tribunal or Arbitration or any other Authority relating thereto our liability under this present being is absolute and unequivocal. The payment under this guarantee would not wait till the disputes have been decided by any Court or Tribunal or in the Arbitration proceeding or by any other Authority.

The payment so made by us under this guarantee shall be a valid discharge of our liability for payment hereunder and the Tenderer/Contractor shall have no claim against us for making such payment.

TENDERER

We, (indicate the name of the Bank) further agree that the guarantee herein contained shall remain in full force and effective till the award of tender to the successful bidder. Validity of BG will be for a period of 270 days from the date of opening of pre-qualification bid with a further claim period of 6 months. However, BG of EMD will be returned after the award of Tender. BG is to be valid till _____ .

We, ……. (indicate the name of the Bank) further agree with the APGENCO that the APGENCO shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Tender or to extend time of BG by the said Tenderer/Contractor from time to time or to postpone for any time or from time totime.

This guarantee will not be discharged due to the change in the constitution of the Bank or the Tenderer/Contractor.

We, ...(indicate the name of the Bank) lastly undertakes not to revoke this guarantee during its currency except with the prior consent of the APGENCO in writing. Further more, we .....(indicate the name of the Bank) accept that

1. This Bank Guarantee is unconditional andabsolute
2. Claim against this Bank Guarantee shall be honoured without any delay or demur; and
3. This Bank guarantee covers all the losses, claims, damages and costs suffered by the APGENCO against the said Tender.

Notwithstanding anything to the contrary contained hereinabove:

a) The liability of the Bank under this Guarantee shall not exceed… .....
b) This Guarantee shall be valid up to Dt._____
c) Unless the Bank is served a written claim or demand on or before Dt._____ (claim period) all rights under this guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities under this guarantee irrespective of whether or not the original bank guarantee is returned to the Bank.

We,_____(indicate the name of the Bank), have power to issue this Guarantee under law and the undersigned as a duly authorized person has full powers to sign this Guarantee on behalf of the Bank.

In witness where of signed this Guarantee on this _____Day __Year___ for __ Bank at

(Signature(s) of Authorised Personnel of the Bank with Seal)
Designation:
Address:

TENDERER

ANDHRA PRADESH POWER GENERATION CORPORATION LIMITED

Dr. NARLA TATARAO THERMAL POWER STATION

IBRAHIMPATNAM, KRISHNA DIST, A.P.

TENDER SPECIFICATION FOR THE WORK OF

"Dr. NTTPS – Stage-III – Ash Pond – Providing rock toe with graded filters at EL(+)40.00M and Strengthening of Bund No.II with homogeneous soil(gravel) between EL(+)40.00M to EL(+)45.00M from Ch.530M to Ch.1400M"

PART-II

PRICE BID

Notice Inviting Tenders (NIT) No: RFx: .

Chief Engineer/Civil/Thermal
5th Floor, VIDYUT SOUDHA, Gunadala
VIJAYAWADA-04, ANDHRA PRADESH

I N D E X

S.No.	***Description***	***Page No.***
1.	Note on Bill of Quantities	1
2.	Schedule-A	1-3

NOTE ON BILL OF QUANTITIES

a) The quantities here given are those upon which the Lump sum tender cost of the work is based but they are subject to alterations, omissions, deductions or additions as provided for in the conditions of this contract and do not necessarily show the actual quantities or work to be done. The unit rates based on the quoted percentage less / excess on ECV value are governing payment of extras or deductions for omissions according to the conditions of the contract as set forth in the preliminary specifications of the A.P. Standard Specifications and other conditions and specifications of this contract.

b) It is to be expressly understood that the measured work is to be taken net (not withstanding any custom or practice to the contrary) according to the actual quantities when in place and finished according to the drawings or as may be ordered from time to time by the Executive Engineer and the cost calculated by measuring or weight at the respective prices without any additional charges for any necessary or contingent works connected therewith.

c) The contractor is bound to execute all supplemental items that are found essential, incidental and inevitable during execution of main works. The percentage less/ excess quoted in the tender will be binding on the contractor for the individual item of work upto plus 10% (Ten percent) over the corresponding quantities given in this bill of quantities.

For all items of work which are more than 10% in excess of the quantities shown in the bill of quantities the rate payable for excess quantities beyond 10% shall be worked out as described in clause 24 of tender specification of Detailed Tender Notice.

SCHEDULE A

Dr. NTTPS – Stage-III – Ash Pond – Providing rock toe with graded filters at EL(+)40.00M and Strengthening of Bund No.II with homogeneous soil(gravel) between EL(+)40.00M to EL(+)45.00M from Ch.530M to Ch.1400M

S.No	Estimate Quantity only in figures		Item detailed specification Description	Work type eg. Earth work, Electrical works etc(upto 200 Characters)	Item Short Description(upto 100 Characters)	APSS/Morth Cl. Number(upto 200 Characters)	Rate(INR) (upto 2 Decimals)(Rs)	UOM(upto 50 characters)	Amount(INR) (Upto 2 Decimals)(Rs)
1	3900	Cum	Excavation in all kinds of soil including boulders upto 0.30m dia. for foundations of walls, drains and placing the excavated stuff neatly in specified dump area or disposing off the same as directed etc. complete with a lead of 1km and initial lift upto 3m including labour charges, etc. complete for finished item of work as directed by the engineer-in-charge.	Excavation	Excavation	Technical Specification	546.06	1 Cum	2129634.00
2	250	Sqm	Plastering with CM(1:4) 20 mm thick to RR masonry walls including cost and conveyance of all materials, labour charges, mixing charges for mortar, curing with all leads and lifts etc., complete for finished item of work and as directed by the Engineer-in-charge but excluding cost of cement which will be supplied by the department at free of cost.	Plastering	Plastering	Technical Specification	379.29	1 Sqm	94822.50
3	14	Cum	Laying Plain Cement Concrete(1:2:4) grade Nominal mix with 10mm and 6mm size 50% each machine crushed HBG metal including cost and conveyance of all materials, seigniorage charges, all labour charges for mixing, placing, curing charges with all leads and lifts etc., complete for finished item of work and as directed by Engineer in charge but excluding the cost of cement which will be supplied by the	PCC(1:2:4)	PCC(1:2:4)	Technical Specification	3507.75	1 Cum	49108.50

4	30	Cum	Supply and laying of filter with 50% of 12 mm and 50% of 20mm HBG graded metal at different elevations including cost and conveyance of filter media, screenig charges, all leads & lifts, all labour charges for laying filter etc., as directed by the Engineer - in - Charge.	laying of filter	laying of filter	Technical Specification	2223.86	1 Cum	66715.80
5	1754	Cum	Providing and construction of dry rubble stone for Rock toe and toe drain using 300 mm & above size HBG stones including cost & conveyance of all materials, machinery, labour charges, hand picking rubble and stone chips, finishing top and sides to the required slopes as per the approved drawings etc., complete for finished item of work as directed by the Engineer-in-charge.	Rock toe	Rock toe	Technical Specification	770.34	1 Cum	1351176.36
6	3631	Cum	Supply & spreading of well graded river sand filter of approved quality for providing sand filling along the slope of rock toe with specified thickness as per the approved drawings & specifications including cost & conveyance of sand, all labour charges, all leads & lifts etc. complete for finished item of work as directed by the Engineer-in-charge.	Supply & spreading of river sand	Supply & spreading of river sand	Technical Specification	794.50	1 Cum	2884829.50
7	370	Cum	Providing and constructing graded filter media behind the rock-toe consisting of 0.10m thick of 6-10mm, 0.1m thickness of 20-10mm and 0.1m thick 40-20mm size HBG metal satisfying filter criteria as per the approved drawings & specifications including cost & conveyance of all materials, all labour charges, all leads & lifts, machinery, laying to required slope, compaction etc. complete for finished item of work as directed by the Engineer-in-charge.	Graded filter	Graded filter	Technical Specification	1901.09	1Cum	703403.30
8	10806	Cum	Construction of embankment with homogeneous soil of gravel from approved borrow areas for formation of bund to the required section as per specifications & approved drawings including cost of labour, materials, hire charges of equipment for excavation, compaction, loading, transportation & unloading, spreading in layers not exceeding 250 mm, removal of roots & undesirable materials, breaking clods and sectioning including scarifying the previous compacted layer and including formation of approach and ramps, watering, compacting each layer to density control of not less than 95% modified proctor density with 8 Tonne vibratory pad/sheep foot roller and including benching of old embankment, roller allowances, trimming the side slopes to the designed section, following all precautions and necessary	Construction of embankment	Construction of embankment	Technical Specification	936.38	1Cum	10118522.28

9	165	Cum	Laying PCC(1:4:8) using 40mm & 20mm each 50% of HBG metal for levelling course including cost and conveyance of all materials, labour charges for mixing, placing, ramming, curing with all leads and lifts etc., but excluding cost of cement which will be supplied by the dept. at free of cost. complete for finished item of work and as directed by the	PCC (1:4:8)	PCC (1:4:8)	Technical Specification	3800.29	1 Cum	627047.85
10	180	Cum	Construction of RR masonry work at different elevations with CM (1:5) for berm and chute drains on down stream side slope of the Bund including cost & conveyance of materials, curing, scaffolding charges, all leads & lifts, all labour charges & other incidental charges etc.,complete for finished item of work as directed by the Engineer-in-charge. (But excluding cost of cement which will be supplied by department at free of cost at Dr.NTTPS central stores).	RR Masonry	RR Masonry	Technical Specification	3639.65	1 MT	655137.00
11	530	Cum	Providing and constructing graded filter media below the rock toe consisting of 0.1m thickness of 20-10mm and 0.1m thickness of 40-20mm size HBG metal satisfying filter criteria as per the approved drawings & specifications including cost & conveyance of all materials, all labour charges, all leads & lifts, machinery, laying to required slope, compaction etc. complete for finished item of work as directed by the Engineer-in-charge.	graded filter	graded filter	Technical Specification	2043.79	1 Cum	1083208.70
			Total						**19763605.79**

(Rupees One crore, ninty seven lakhs, sixty three thousand six hundred five and paise seventy nine only)