

SITC of 500 KWp Grid connected Solar Roof
Top Power Plant at Trivandrum Airport



TENDER DOCUMENT

AIRPORTS AUTHORITY OF INDIA
TRIVANDRUM AIRPORT, TRIVANDRUM- 695 008

TENDER DOCUMENT

NAME OF WORK: SITC of 500 KWp Grid connected Solar Roof Top Power Plant at Trivandrum Airport.

INDEX

S. No.		Particulars	Heading/Footer	Page No.
1.		Definition & Abbreviation	DA	1-2
2.		Notice Inviting E-Tender	NIT	1-14
3.		Scope of work	INT	1-2
4.		General Conditions of Contract-(GCC)		
	(i)	Item Rate Tender Form DE-8	-	1-3
	(ii)	General Rules & Directions		4-7
	(iii)	Conditions of Contract	-	8-10
	(iv)	Clauses of Contract	-	11-58
	(v)	Safety Code	-	59-62
	(vi)	Model Rules for the Workers	-	63-67
	(vii)	Contractor's Labour Regulations	-	68-73
	(viii)	Proforma for Registers	-	74-91
	(ix)	Form of Performance Guarantee	-	92-93
	(x)	Proforma of Schedules	-	94-100
	(xi)	Letter of Acceptance & other Forms		101-116
5.		Special Conditions of Contract	-	117-132
6.		Technical Specification of Items	-	133-145
7.		Drawings	-	146-151
8.		Schedule of Quantities	-	152-158
9.		Approved Make	-	159-161

This tender document contains DA 1-2, NIT 1-14, INT 1-2, and 01-161 pages as detailed above.

Senior Manager (Engg-E)

DEFINITIONS & ABBREVIATIONS

- 1.0. In this “Bid Document” the following words and expression will have the meaning as herein defined where the context so admits:
- 1.1 **"B.I.S"** shall mean specifications of Bureau of Indian Standards (BIS);
- 1.2 **"Bid"** shall mean the Techno Commercial and Price Bid submitted by the Bidder along with all documents/credentials/attachments annexure etc., in response to this Tender, in accordance with the terms and conditions hereof.
- 1.3 **"Bidder/Bidding Company"** shall mean Bidding Company submitting the Bid.
Any reference to the Bidder includes Bidding Company / including its successors, executors and permitted assigns as the context may require”;
- 1.4 **"Bid Deadline"** shall mean the last date and time for submission of Bid in response to this Tender as specified in Bid information Sheet;
- 1.5 **"CEA"** shall mean Central Electricity Authority.
- 1.6 **"Chartered Accountant"** shall mean a person practicing in India or a firm where of all the partners practicing in India as a Chartered Accountant(s) within the meaning of the Chartered Accountants Act, 1949;
- 1.7 **"Commissioning"** means Successful operation of the Project / Works by the Contractor, for the purpose of carrying out Performance Test(s) as defined in Tender document.
- 1.8 **"Company"** shall mean a body incorporated in India under the Companies Act,1956 or Companies Act, 2013 including any amendment thereto;
- 1.9 **"Capacity Utilization Factor" (CUF)** means the ratio of the annual output of the plant in kWh versus installed plant capacity for number of days. $CUF = \text{plant output in kWh} / (\text{installed plant capacity in kW} * 365 \times 24)$.
- 1.10 **"City Limits"** means Municipal Corporation limits/Master plan/Industrial area includes SEZ and IT park etc.
- 1.11 **"Eligibility Criteria"** shall mean the Eligibility Criteria as set forth in Tender document.
- 1.12 **"IEC"** shall mean specifications of International Electro-technical Commission;
- 1.13 **"kWp"** shall mean Kilo-Watt Peak;
- 1.14 **"kWh"** shall mean Kilo-Watt-hour;
- 1.15 **"MNRE"** shall mean Ministry of New and Renewable Energy, Government of India;

- 1.16 **"CMC"** shall mean Comprehensive Maintenance Contract of roof top mounted Solar PV system;
- 1.17 **"Project Cost / Project Price"** shall mean the price offered by the Bidder for the scope of work as per tender document. AAI shall take subsidy directly from MNRE.
- 1.18 **"Performance Ratio" (PR) means**
"Performance Ratio" (PR) means the ratio of plant output versus installed plant capacity at any instance with respect to the radiation measured. $PR = \frac{\text{Measured output in kW}}{\text{Installed Plant capacity in kW} * (1000 \text{ W/m}^2 / \text{Measured radiation intensity in W/m}^2)}$.
- 1.19 **"Statutory Auditor"** shall mean the auditor of a Company appointed under the provisions of the Companies Act, 1956 or under the provisions of any other applicable governing law;
- 1.20 **"Successful Bidder(s) /Contractor/ Project Developers(s)"** shall mean the Bidder(s) selected by AAI pursuant to this Tender for Implementation of Grid Connected Ground Mounted Solar PV System as per the terms of the Tender Documents, and to whom an Award Letter has been issued;
- 1.21 **"SECI"** shall mean Solar Energy Corporation of India, New Delhi (A Govt. of India Enterprise) under MNRE.
- 1.22 **"SNA"** shall mean State Nodal Agency.
- 1.23 **"GHI"** Global Horizontal Irradiance.
- 1.24 **"Wp"** shall mean Watt Peak.
- 1.25 **"DLP"** Defects liability period.
- 1.26 **"KSEB"** shall means Kerala State Electricity Board

NOTICE INVITING e-TENDER (3 BOT – 3 Envelope Open Tender)**E-Bid No. 2017_AAI_1241_1**

1. Item rate tenders are invited through the e-tendering portal by Senior Manager (Engg-Elect), EMATS, Airports Authority of India, Trivandrum Airport, Thiruvananthapuram- 695 008, on behalf of Chairman, AAI from the eligible contractors for the work of **"SITC of 500 kWp Grid Connected Solar Roof Top Power Plant at Trivandrum Airport"** for an Estimated cost of **Rs. 4,33,76,424.00** with a **completion period 05 (Five) months**.
2. The tendering process is online at NIC E-Portal URL address **<https://etenders.gov.in/eprocure/app>**. Aspiring bidders may go through the tender document by Login CPP Portal.
3. Prospective Tenderers are advised to get themselves acquainted for e-tendering participation requirements at "Instructions for online bid submission" (Refer **-Annexure-"A"** of Tender Document), register themselves at NIC e-tender portal, obtain "User ID" & "Password" and go through the 'Self Help files' available in the Home Page after log in to the portal **<https://etenders.gov.in>**. They should also obtain Class III Digital Signature Certificate (DSC) in parallel which is essentially required for submission of their application. The process of obtaining digital signature normally takes 03 days time. The tenderer may also take guidance from AAI Help desk Support (contact details mentioned in tender document).
4. Tender document may be downloaded from CPP portal : **<https://eprocure.gov.in/eprocure/app>** and Airports Authority of India web site **www.aai.aero** (for reference only) as per the schedule as given in CRITICAL DATE SHEET as under.

CRITICAL DATES :-

Sl No	Description	Date
1	Published Date	21/06/2017 (11:00Hrs)
2	Bid Document Download/Sale Start Date & Time	21/06/2017 (11:00Hrs)
3	Clarification Start Date	21/06/2017 (11:00Hrs)
4	Clarification End Date	03/07/2017 (11:00Hrs)
5	Bid Document Download / sale End date.	03/07/2017 (18:00Hrs)
6	Bid Submission Start Date	21/06/2017 (13:00Hrs)
7	Bid Submission End Date	06/07/2017 (18:00Hrs)
8	Bid Opening Cover-I	14/07/2017 (15:00Hrs)
9	Last date for offline submission of original EMD, unconditional acceptance letter, tender fee and other offline supporting documents as per NIT.	12/07/2017 upto 1800 Hrs

Tender fee (non-Refundable) of Rs. 525/- shall be paid off line in the form of Demand Draft drawn in favour of Airports Authority of India, payable at Trivandrum.

5. Bid Submission:

Bidders are advised to visit website regularly to keep themselves updated as any change / modification in the tender will be intimated through this web site only.

Bids shall be submitted online only at CPP portal : <https://eprocure.gov.in/eprocure/app.Tenderer/> Contractors are advised to follow the instructions "Instructions to Bidder for online Bid Submission" provided in the **Annexure "A" for online submission of bids.**

Bid documents may be **scanned with 100dpi** with black and white option which helps in reducing size of the scanned document.

The following 3 covers shall be submitted through online CPP – Portal by the bidders. Last date and time of submission of bids (cover I,II,III) is 06/07/2017 upto 1800 hrs.

5.1 Cover –I containing:- Scanned copy of unconditional acceptance of tender conditions, EMD etc.

It shall contain:

1. Scanned copy of Tender fee of Value Rs.525/- in the form of Demand Draft as stipulated in Notice Inviting Tender.
2. Scanned copy of earnest money deposit (EMD) of value **Rs. 8,67,528/-** in the form of Demand Draft as stipulated in Notice Inviting Tender.
3. Scanned copy of duly signed unconditional Acceptance letter of AAI's Tender conditions **(Annexure-1)**. Authorization Letter/Power of Attorney/Undertaking if the Agency is a Proprietary concern.
4. Scanned copy of affidavit for payment of Minimum wages **(Annexure-7)**.
5. Scanned copy of valid EMD exemption letter / Valid registration certificate of MSE's which are registered under MSME act if applicable.(for EMD exemption, refer para 12.3) and MSME declaration / affidavit as per **Annexure-8**

5.2 Cover II :- Containing qualifying requirements of Contractors / Firms:- The tenderer shall upload the digitally signed files of.

1. PQ Proforma and check list **(Annexure-9)**
2. Scanned copy of registration Details
3. Scanned copy of Experience certificate along with work order copy, bill of quantity , completion certificate.
4. Firm's bio-data in support of their meeting each criteria.

Hard copy of application shall not be entertained.

Qualifying requirements of Contractors / Firms

- (i) MNRE approved manufacturers of Solar PV power plant /specialized firms in the field having Permanent Account Number (PAN), Sales tax/Service Tax Registration.
- (ii) Should have satisfactorily completed (Phase / Part completion of the scope of work in a contract shall not be considered, however predetermined phasing of the work will be accepted) three works, each of **Rs. 1,73,50,570/-** or two works, each of **Rs. 2,16,88,212/-** or one work of **Rs. 3,47,01,139/-** in similar nature of work (SITC of Grid connected solar power plant) during last seven years ending on **31.05.2017** in India. The estimated cost put to tender is exclusive of service tax and the value of work experience submitted will be evaluated excluding service tax.
- (iii) Client certificate for experience should show the nature of work done, the value of work, date of start, date of completion as per agreement, actual date of completion and satisfactory completion of work. **Experience certificate should contain work order copy, bill of quantity, completion certificate.**
- (iv) Firms showing work experience certificate from Non-Government / Non-PSU Organizations should submit copy of tax deduction at source (TDS) certificate in support of their claim for having experience of stipulated value of work.
- (v) Should have annualized average financial turnover of **Rs. 1,30,12,927/-** against works executed during last three years ending on 31st March of 2017. As a proof, copy of Abridged Balance Sheet along with Profit and Loss account Statement of the firm should be submitted along with the application. Firms showing continuous losses during the last three years in the balance sheet shall be summarily rejected.

5.3 Cover-III: -

- a) The tenderer shall upload the digitally signed **Schedule of price bid in the form of BOQ. xls****

Bidders may please note, the schedule of quantities is attached in the portal. The same BOQ shall downloaded and be filled in the editable (unprotected) cells only and they should necessarily submit their financial bids in the format provided after entering the financial quotes, name of the bidder etc.

Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the white coloured (un protected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

6. Mode of Submission of Original Tender Cost And EMD Amount:

- (a) **Original DD towards Tender fee (b) Original DD towards EMD, (c) hard copy of signed Unconditional Acceptance of AAI's Tender conditions and original Affidavit for payment of Minimum wages to be sent to the Office of Sr. Manager Engg (E), EMATS, AAI, Trivandrum Airport, Thiruvananthapuram- 695008 and should reach before the date & time of opening of Cover-I.** Tender of the tenderer whose Tender fee, EMD, Unconditional acceptance of AAI's Tender conditions and original affidavit for payment of Minimum wages are not received on or before **12/07/2017 (18.00 Hrs.)**, then their tender will be summarily rejected. Any postal delay will not be entertained.

The details of the Tender Cost, Earnest Money Deposit (EMD Unconditional acceptance of AAI's Tender conditions and Original affidavit for payment of Minimum wages and the scanned copies furnished at the time of bid submission online should be the same otherwise the Tender will be summarily rejected.

7. Bid opening Process is as below:-

- 7.1 Cover -I:** Containing Documents for bid (uploaded by the contractors/firms) shall be opened on **14/07/2017 at 15.00** hours. The intimation regarding acceptance / rejection of their bids will be intimated to the contractors / firms through CPP e-tendering portal.
- 7.2 Cover-II:** Pre-Qualification/ Technical bid opening date is 17/07/2017 at 15.00 hours. (Depending on pre-qualification, any changes in the date shall be intimated through e-tendering portal). If any clarification is needed from the bidder about the deficiency in his uploaded documents in Cover-II, he will be asked to provide it through Short fall documents folder in e-tendering portal. The bidder shall upload the requisite clarification/documents within time specified by AAI, failing which tender will be liable for rejection.

7.3 Cover-III: The financial bids of the contractors/firms found to be meeting the qualifying requirements and technical criteria shall be opened on **25/07/2017 at 15.00 hrs.** (Depending on Cover-II evaluation any changes in the date shall be intimated through e-tendering portal).

8. AAI reserves the right to accept or reject any or all applications without assigning any reasons. AAI also reserves the right to call off tender process at any stage without assigning any reason.

9. AAI reserve the right to disallow issue of tender document to working agencies whose performance at ongoing project (s) is below par and usually poor and has been issued letter of restrain/ Temporary/Permanent debar by any department of AAI. AAI reserve the right to verify the credential submitted by the agency at any stage (before or after the award of the work). If at any stage, any information /documents submitted by the applicant is found to be incorrect / false or have some discrepancy which disqualifies the firm, then AAI shall take the following action:

a) Forfeit the entire amount of EMD submitted by the firm.

b) The agency shall be liable for debarment from tendering in AAI, apart from any other appropriate contractual/legal action.

c) Consortium / JV companies shall not be permitted. No single firm shall be permitted to submit two separate applications.

10. Purchase preference to Central Public Sector Undertaking shall be applicable as per the directive of Govt. of India prevalent on the date of acceptance.

11. Public procurement policy for Micro, small and medium enterprises registered under MSME shall be followed as per the directives of Government of India prevailing at the date of acceptance.

12 Exemption from paying tender fee & earnest money deposit

12.1 Micro and small enterprises (MSEs) – registered with **District Industries centers or khadi and Village Industries Commission or khadi and village industries board or coir board or National small Industries Corporation or Directorate of Handicraft and Handloom or any other body specified by the Ministry of Micro, Small and Medium Enterprises as MSMED Act 2006**, and further amendments for goods produced and services rendered shall be issued Tender Documents free of cost and shall be exempted from paying Earnest Money Deposit (EMD).

12.2 Price preference: The price preference to MSEs shall be applicable as per prevailing government norms/public procurement policy.

12.3 DOCUMENT REQUIRED FOR AVAILING EXEPTION OF TENDER FEE AND EMD FOR NSIC /MSEs:

The following procedure is adopted for the bidders registered with NSIC/MSEs:

The MSEs who intent to claim benefits under MSME act, shall fulfill the following, otherwise they run the risk of their bid being passed over as "INELIGIBLE" for the benefits applicable to MSEs and their bid will not be considered for evaluation.

- i) MSEs which are specified by the Ministry of Micro, small and Medium, Enterprises under MSMED Act 2006 and Public Procurement Policy, 2012 as Manufacturing / Service Enterprises should have registered with NSIC under its Single Point Registration Scheme (SPRS).
- ii) NSIC certificate with monetary limit indicated should be valid on the scheduled date / extended date of submission of tender. Certificate without monetary limit will not considered.
- iii) The items of Product / Services mentioned under NSIC certificate should be the same or similar to the tendered items (Schedule of Items of Tendered).
- iv) The Monetary limit stipulated in the NSIC certificate of MSEs should be equal or more than the value of work(s)/Supply is/are "In hand (Progress)" awarded under MSME benefits during the financial year plus estimated cost of this tender for availing EMD exemption.
- v) If monetary limit is less than the value of work(s)/Supply is/are "In hand(Progress)" awarded under MSME benefits during the financial year plus estimated cost of this tender, they should obtain "Competency Certificate" from NSIC for participating in this tender as well as to avail MSME benefits. The competency certificate should be uploaded in the Cover 1. MSEs shall submit the Performa attached in **Annexure "8"** duly attested by Notary Public. During the bid evaluation, EMD exemption shall be granted to the NSIC/MSEs registered firm. In case the NISC/MSEs registration certificate is found invalid during evaluation, the bid of such bidder shall be rejected.

13. If the entity participating in any of the tenders is a private or public limited company, partnership firm or proprietary firm and any of the Directors/Partners/ Proprietor of such company is also a director of any other company or partner of a concern or a sole proprietor having established business with AAI and has outstanding dues payable to the Authority, then the said entity shall not be allowed to participate in AAI tenders.

**Senior Manager Engg (E), EMATS
AAI, Trivandrum Airport.**

NIT -7

C-NIL, I-NIL, O-NIL

ADDITIONAL CONDITIONS OF NIT

1. Item rate e-tenders are invited on behalf of the Airport Authority of India for the work as mentioned at page No. 97 of Schedule F of GCC. The estimated cost of the work is mentioned at page No. 97 of Schedule F of GCC. The estimate, however, is given merely as rough guide.
2. The e-tenders shall be in the prescribed form.
3. The works are required to be completed within the period as mentioned at Page No.98 of Schedule F of GCC.
4. The Accepting Authority as mentioned at Page No.97 of Schedule F of GCC shall be the Accepting Officer hereinafter, referred to as such for the purpose of this contract.
5. Tender documents consisting of plans, specifications, Schedule(s) of quantities of the various classes of work to be done, the conditions of contract and other necessary documents will be open for inspection in the e-tender portal. Tender document can be downloaded from the NIC CPP e-tendering portal without paying any tender fees. However, to participate in the tender/to submit the tender document, the tenderer must pay tender fee of **Rs. 525/-** in the form of DD drawn in favour of AAI, payable at Trivandrum.
6. **Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their Tenders as to the nature of the land available for installation of Solar PV panels**, the form and nature of the site, the means of access to the site, the accommodation they may require, working conditions including space for stacking of materials, installation of T&P, rates of various materials to be incorporated in works, conditions affecting accommodation and movement of labours etc. and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or effect their Tender. A Tenderer shall be deemed to have full knowledge of the site whether he inspects it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.
7. Submission of a Tender by a Tenderer implies that he has read this notice and all other contract documents and has made himself aware of the scope and specifications of the works to be done and of conditions and rates at which stores, tools and plant, etc. will be issued to him by Airports Authority of India, local conditions, local material rates and other factors bearing on the execution of the works.
8. All rates shall be quoted in the NIC CPP e-tendering portal.
9. In the case of item rate Tenders only rates quoted shall be considered. Any Tender containing percentage below/above the rates quoted is liable to be rejected.

10. Tenders shall be received through NIC CPP e-tendering portal upto the date and time as mentioned at **Notice inviting e-tender**.
11. Earnest Money of amount as mentioned at page No. 97 of Schedule F (sl no.i) of GCC shall be deposited
 - i) EMD of the Value of Rs. 8,67,528/-(Rupees Eight Lakh Sixty Seven Thousand Five Hundred and Twenty Eight only) shall be accepted offline only in the form of Demand Draft Drawn in favour of Airports Authority of India payable at Trivandrum from a nationalized or any scheduled bank (but not from co-operative or Gramin bank). The original Demand Draft against Tender fee should be posted/ couriered/ given in person to the concerned officials latest as specified in the Tender Document. The details of Demand Draft/any other accepted instrument, physically sent, should tally with the details available in the scanned copy and the data entered during bid submission time.
12. Notification of Award of contract will be made in writing to the successful Bidder by the Accepting Authority or his representative. The contract will normally be awarded to the qualified and responsive Bidder offering lowest evaluated bid in conformity with the requirements of the specifications and contract documents and the Accepting Authority shall be the sole judge in this regard. The Accepting Authority does not bind himself to accept the lowest or, any tender or to give any reason for his decision.
 - 12.1 A **responsive bidder** is one who submits priced Tender and accepts all terms and conditions of the specifications and contract documents.
 - 12.2 A **major modification** is one which affects in any way the quality, quantity and period of completion of the work or which limits in any way the responsibilities or liabilities of the Bidder or any right of AAI, as required in the specifications and contract documents. Any modification in the terms and conditions of the Tender which are not acceptable to AAI shall also be treated as a major modification.
 - 12.3 A Tenderer shall submit a responsive bid, failing which his Tender will be liable to be rejected.
 - 12.4 The Accepting Authority reserves to himself the right of accepting the whole or any part of the Tender and Tenderer shall be bound to perform the same at his quoted rates.
13. On acceptance of Tender earnest money will be treated as part of the security deposit.
14. EMD to unsuccessful bidders received through offline shall be refunded to the details provided on the portal at the time of submission of the tender.
15. Canvassing in connection with Tenders is strictly prohibited and the Tenders submitted by the Tenderers who resort to canvassing will be liable to rejection.

16. The Tenderer shall not be permitted to tender for works in Airports Authority of India Engineering Department, responsible for award and execution of contracts, in which his near relative is posted as Manager Finance & Accounts or Sr. Officer or as an engineer in any capacity. He shall also intimate the names of persons who are working with him in any capacity or are subsequently employed by him and who are near relatives to any officer in Airports Authority of India. Any breach of this condition by the contractor would render him liable to be debarred from Tendering for next 2 years.
17. The contractors shall give a list of AAI employees related to him.
18. No Engineer of Gazetted rank or other Gazetted Officer employed in Engineering or Administrative duties in an Engineering Department of Airports Authority of India/Govt. of India is allowed to work as a contractor for a period of two years of his retirement from Airports Authority of India/ Government service, without the previous permission of Airports of India/Govt. of India. The contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of Airports Authority of India/Govt. of India as aforesaid before submission of the Tender or engagement in the contractor's service.
19. The Tender for works shall remain open for acceptance for a **period of 90 (ninety) days** from the date of opening of Tenders. If any Tenderer withdraws his Tender before the said period or makes any modifications in the terms and conditions of the Tender which are not acceptable to the Department, then Airports Authority of India shall without prejudice to any other right or remedy, be at liberty to forfeit the full said earnest money absolutely.
20. On acceptance of the Tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated to the Engineer-in-Charge.
21. A tenderer shall submit the tender which satisfies each and every condition laid down in this notice failing which the Tender will be liable to be rejected. Also if the credential submitted by the firm found to be incorrect or have some discrepancy which disqualifies the firm then the AAI shall take the following action:
 - a) Forfeit the **entire amount of EMD** submitted the firm.
 - b) Debar the firm for minimum three years to tender for AAI in any name/style.
22. a) All tendered rates shall be inclusive of all taxes and levies payable under respective statutes. However, pursuant to the Constitution (46th Amendment Act. 1982, if any further tax or levy is imposed by Statute, after the last stipulated date for the receipt of tender including extensions if any and the contractor thereupon necessarily and properly pays such taxes / levies, the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the Engineer-In-Charge (whose decision shall be final and binding on the contractor) attributable to delay in execution of work within the control of the contractor.

- b) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary as shall allow inspection of the same by a duly authorized representative of Airports Authority of India and / or Engineer-In-Charge and further shall furnish such other information/document as the Engineer-In-Charge may require from time to time.
- c) The contractor shall, within a period of 30 days of the imposition of any such further tax or levy, pursuant to the Constitution (46th amendment) Act 1982, give a written notice thereof to the Engineer-In-Charge that the same is given pursuant to this condition, together with all necessary information relating thereto.
23. ~~The Tender for composite works includes in addition to building work all other works such as sanitary and water supply installations, electrical work, horticulture work, roads and paths etc. The Tenderer apart from being a registered contractor of appropriate class, must associates himself with agencies of appropriate class which are eligible to tender for sanitary and water supply, drainage, electrical work and horticulture works in a composite Tender.~~
24. The site for the work is available.
25. **MODE OF SUBMISSION OF TENDERS:**
- 25.1 Following 3 Covers shall be submitted through online at e-portal by the bidder:

Last date and time of submission of bids (Cover I, II, III) is as prescribed in the notice inviting tender critical date sheet.

Last date and time of sale of tender document is as prescribed in the notice inviting tender critical date sheet.

Cover-I :- Containing scanned copy of DD against EMD & Tender Fee and scanned copy of Unconditional Acceptance of AAI's Tender Conditions.

(In case of MSE's agency should submit scanned copy of their registration certificates with the concerned body in support of their claim exemption from tender fee and EMD.)

Scanned Copy of duly signed & stamped Unconditional Acceptance of AAI's Tender. The scanned Copy of power of Attorney/authorization (If Applicable) letter for tender document/bidding on CPP portal. Scanned copy of DD against EMD & scanned copy of Tender Fee shall be submitted in Cover-I on the CPP Portal.

Original / hard copies of the same is required to be submitted to the Bid Manager (Senior Manager (Engg – Elect), EMATS, Airports Authority of India, Trivandrum Airport, Thiruvananthapuram- 695 008 upto **12/07/2017 @ 18.00 Hrs.**

If EMD and unconditional acceptance letter of any bidders are not meeting the AAI's tender conditions then their e-bid response will be summarily rejected.

Cover- II:- The tenderer shall submit their application by downloading the "PQ Proforma" from the e-tendering portal, fill-up the required information and upload the digitally signed file of scanned documents and firm's bio-data in support of their meeting each criterion mentioned below in the "Pre Qual/Technical" in Technical Bid / Attachments Section in the portal. Uploading of application in location other than specified above shall not be considered. Hard copy of application shall not be entertained

Cover -III:- All rates shall be quoted in the format provided and no other format is acceptable. If the price bid has been given as a standard BOQ format with the tender document, then the same is to be downloaded and to be filled by all the bidders. Bidders are required to download the BOQ file, open it and complete the white coloured (unprotected) cells with their respective financial quotes and other details (such as name of the bidder). No other cells should be changed. Once the details have been completed, the bidder should save it and submit it online, without changing the filename. If the BOQ file is found to be modified by the bidder, the bid will be rejected.

Bids Opening Process is as below:-

Cover -I: Containing Documents for Tender Fee, EMD and unconditional acceptance letter (uploaded by the contractors / firms) shall be opened on **14/07/2017 at 15.00 hours**. The intimation regarding acceptance / rejection of their bids will be intimated to the contractors/ firms through e tendering portal.

Cover -II: Prequalification /Technical bid opening date shall be intimated via CPP portal. If any clarification is needed from the bidder about the deficiency in his uploaded documents in Cover – I and cover –II, he will be asked to provide it through the CPP portal. The bidder shall upload the requisite clarification / documents within time specified by AAI, failing which tender will be liable for rejection..

Cover-III: The financial bids of the contractors / firms found to be meeting the qualifying requirement and technical criteria shall be opened. The date of opening shall be communicated via CPP Portal.

- 25.2 The offer from those contractors whose scanned copy of unconditionally acceptance of the AAI's conditions are not found in "Cover- I" Section and/or failed to submit requisite EMD (offline/in physical form) will not be considered and will stand rejected and financial bid of such contractors shall not be opened.
- 25.3 Once the contractor has uploaded the scanned copy of unconditionally acceptance of the AAI's conditions, as an attachment, he is not permitted to upload any additional file or put any remark(s)/ conditions(s) in / along with the Tender Document.
- 25.4 In case, the condition 25.1 to 25.3 above is found violated, the tender shall be rejected.
26. This notice of Tender shall form part of the contract documents. The successful Tenderer/contractor, on acceptance of his Tender by the Accepting Authority, shall within 15-days from the date of award of work sign the contract consisting of Notice inviting Tenders, General conditions of contract, special/additional condition, General and particular specifications, Tender conditions as issued at the time of invitation of Tender and acceptance thereof with any correspondence leading there to.
27. The Government policy towards MSE firms shall be applicable as per Governments norms.

28. As per the provisions (Para -10) of Public Procurement Policy for MSEs Order 2012 with upto date amendments, MSEs (Micro & Small Enterprises) registered with DIC/ NSIC/ KVIC/ KVIB/ Directorate of Handicraft and Handlooms etc. are exempted for submission of EMD. To avail this facility concerned bidder are required to submit documentary proof in Cover –I.
29. The bidders / service providers shall quote the rate inclusive of all taxes & duties excluding service tax. The service tax component shall be quoted separately in the price bid. The lowest tender shall be decided on the basis of gross cost to AAI which is including service tax. If no rate is quoted in the service tax component / reflects as 0 (zero) in the e-portal, it will be presumed that the rate quoted in the rate section is inclusive of applicable service tax. The quantum of service tax of item(s) shall be decided as per the prevailing service tax act. The agency shall submit the invoice incorporating the full service tax component at the time of submission of bill. The amount of service tax to be paid to the government by the service recipient ie. by AAI wherever applicable will be deducted from the invoice amount submitted by the agency. This supersedes any other conditions about service tax mentioned in any other part of the tender document
30. Queries, if any, may be sent through NIC CPP e-tendering portal.

For and on behalf of

Airports Authority of India

Signature:

Designation:

Date:

Instructions to the bidders on e-Tendering process

1. The tendering process is online at NIC E-Portal URL address <https://etenders.gov.in/eprocure/app>. Aspiring bidders may go through the tender document by Login CPP Portal.

2. Prospective Tenderers are advised to register themselves at NIC e-tender portal, obtain "User ID" & "Password" and go through the 'Self Help files' available in the Home Page after log in to the portal <https://etenders.gov.in>. They should also obtain Class III Digital Signature Certificate (DSC) in parallel which is essentially required for submission of their application. The process of obtaining digital signature normally takes 03 days time. The tenderer may also take guidance from AAI Help desk Support.

3. Tender document may be downloaded from CPP portal: <https://eprocure.gov.in/eprocure/app> and Airports Authority of India web site www.aai.aero (for reference only) as per the schedule as given in CRITICAL DATE SHEET.

4. Bids shall be submitted online only at CPP portal : <https://eprocure.gov.in/eprocure/app>. Tenderer/ Contractors are advised to follow the instructions. Bid documents may be **scanned with 100dpi** with black and white option which helps in reducing size of the scanned document.

The following 3 covers shall be submitted through online CPP – Portal by the bidders. Last date and time of submission of bids is mentioned in the NIT.

5. The tenderer shall upload the digitally signed **Schedule of price bid in the form of BOQ. Xls**. Bidders may please note, the schedule of quantities is attached in the portal. The same BOQ shall downloaded and be filled in the editable (unprotected) cells only and they should necessarily submit their financial bids in the format provided after entering the financial quotes, name of the bidder etc.

6. For any Technical Assistance with regard to functioning of e-tender portal the bidder may contact to the following help desk support between 8:00 hrs. to 20:00 hrs. on all working days. (CPP Help Desk No. 0120-4200462, 0120-4001002., Mobile no-91-8826246593) Email Address: support-eproc@nic.in

(AAI help desk no 011-24632950 Ext :3512, E-mail Address :-eprochelp@aai.aero

SCOPE OF WORK

1. Introduction

Energy is one of the main basic inputs to an accelerated economic development. As such it finds an important place in the agenda of countries world over especially in the developing countries. Ever increasing Carbon Dioxide emissions and their impact on climate changes as well as rising energy costs and diminishing fossil resources necessitate a shift to more sustainable and ecologically sound energy resource. Today one of the greatest challenge is to meet its ever growing energy demand more efficiently, economically and sustainable.

- 1.1 With this objective, AAI, is desirous of setting up environmental friendly Grid-connected, Roof Top Mounted Solar Power System at Trivandrum Airport. The generated solar power will be utilized for captive application. The scheme aims to reduce the fossil fuel based electricity load on main grid and make building self-sustainable from the point of electricity, to the extent possible.
- 1.2 Airport Authority of India (AAI), which expression shall also include its successors and permitted assigns, hereby invites interested companies to participate in the bidding process for the selection of Successful Bidder for implementation Grid-connected Roof Top Mounted Solar Photovoltaic Project.
- 1.3 The Bidder is advised to read carefully all instructions and conditions appearing in this document and understand them fully. All information and documents required as per the bid document must be furnished. Failure to provide the information and / or documents as required may render the bid technically unacceptable.
- 1.4 The bidder shall be deemed to have examined the bid document, to have obtained his own information in all matters whatsoever that might affect the carrying out the works in line with the scope of work specified elsewhere in the document at the offered rates and to have satisfied himself to the sufficiency of his bid. The bidder shall be deemed to know the scope, nature and magnitude of the works and requirement of materials, equipment, spares, tools and labour involved, wage structures and as to what all works he has to complete in accordance with the bid documents irrespective of any defects, omissions or errors that may be found in the bid documents.

2. Scope of Work:

Highlights of the scope of work under this work are as under:

The scope of work for the bidder mainly includes Site survey, Shadow analysis, complete design for optimal uses of space, engineering, manufacture, supply, storage, insurance, civil work, erection, testing & commissioning of the grid connected Roof top mounted solar PV project including Comprehensive maintenance Contract (CMC) of the project for a period of five years after commissioning.

- i) The agency has to survey, analyses the climate conditions of the site and design the plant for a tentative capacity of 500 KWp suitable for the location in multiple land in the premises of Trivandrum Airport.
- ii) The project is being implemented under the CAPEX scheme for setting of Grid connected Solar Roof Top Mounted project. The Solar photo voltaic plant modules (SPV) and other related equipments shall comply with the guidelines of MNRE.
- iii) The work has to be carried out in accordance with all the rules and regulations of Indian Electricity Act with upto date amendment.
- iv) Necessary N.O.C (s) from all the concerned departments like KSEB/CEA have to be obtained by the agency before or during the execution of the project as & when required as per the requirement.
- v) The agency has to make good all the site of AAI after the execution of the work to the fullest satisfaction of the Engineer-In- charge.
- vi) The successful bidder shall submit the detailed project report after award of work including drawings, system integration plans, monitoring and load detail, period of operation etc. before commencement of installation and approval from competent authority has to be taken.
- vii) **AAI Scope:**
 - (a) AAI will make available the space free of cost at Trivandrum Airport for installation of solar photo voltaic plant modules (SPV) and other related equipments. The land space of 7086 Sq mtr approximately is available at Trivandrum Airport (as per layout attached).
- viii) Time allotted for completion of the project and commissioning of the system is **05 (Five) MONTHS.**



GENERAL CONDITIONS OF CONTRACT

AIRPORTS AUTHORITY OF INDIA

AIRPORTS AUTHORITY OF INDIA

Item Rate Tender & Contract for Work

Airport: **Trivandrum Airport**

Division: **EMATS**

Tender for the work of: **“SITC of 500 KWp Grid Connected Solar Roof Top Power Plant at Trivandrum Airport”.**

1. Last date and time of sale of tender document : **03.07.2017 up to 18.00 Hrs.**
2. Last Date and time of online submission of Bids : **06.07.2017 up to 18.00 Hrs.**
3. Date of Opening of Cover - I : **14.07.2017 at 15.00 Hrs.**
4. Date of Opening of Cover – II : **17.07.2017 at 15.00 Hrs.**
5. Date of Opening of Cover- III : **25.07.2017 at 15.00 Hrs.**

SENIOR MANAGER ENGG (E), EMATS,
AIRPORTS AUTHORITY OF INDIA
TRIVANDRUM AIRPORT,
THIRUVANANTHAPURAM-695 008



TENDER

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

I/We hereby tender for the execution of the work specified for the Airports Authority of India within the time specified in Schedule 'F', viz., schedule of quantities and in accordance in all respects with the Rules and Directions and in Clause 11 of the Conditions of contract and with such material as are provided for, by and in respects in accordance with, such conditions so far as applicable.

We agree to keep the tender open for Ninety (90) days from the date of opening of financial bid and not to make any modifications in its terms and conditions.

A sum of **Rs. 8,67,528/-** submitted shall be accepted offline only in the form of Demand Draft Drawn in favour of Airports Authority of India payable at Trivandrum from a nationalized or any scheduled bank (but not from co-operative or Gramin bank). If I/we, fail to furnish the prescribed performance guarantee within prescribed period, I/we agree that the said A.A.I. or his successors in office shall without prejudice to any other right or remedy, be at liberty to forfeit the said earnest money absolutely. Further, if I/ we fail to commence work as specified, I/we agree that A.A.I. or his successors in office shall without prejudice to any other right or remedy available in law, be at liberty to forfeit the said earnest money and the performance guarantee absolutely, otherwise the said earnest money shall be retained by him towards security deposit to execute all the works referred to in the tender documents upon the terms and conditions contained or referred to therein and to carry out such deviations as may be ordered, upto maximum of the percentage mentioned in Schedule 'F' and those in excess of that limit at the rates to be determined in accordance with the provision contained in Clause 12.2 and 12.3 of the tender form. Further, I/We agree that in case of forfeiture of earnest money or both Earnest Money & Performance Guarantee as aforesaid, I/We shall be debarred for participation in the re-tendering process of the work.

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

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

Date.....

Signatures of Contractor

Witness:

Postal Address

Address:

Occupation:

A.A.I.

2

(C.....I.....O.....)

ACCEPTANCE

The above tender (as modified by you as provided in the letters mentioned hereunder) is accepted by me for and on behalf of the Airports Authority of India for sum of

Rs. _____ (Rupees _____)

The letters referred to below shall form part of this contract Agreement:-

(i)

(ii)

(iii)

For & on behalf of Airports Authority of India

Signature-----

Designation-----

Dated -----



AIRPORTS AUTHORITY OF INDIA

1. General Rules & Directions

All work proposed for execution by contract were notified in a form of invitation to tender pasted in public places and signed by the officer inviting tender or by publication in Newspapers.

This form will state the work to be carried out, as well as the date for submitting and opening tenders and the time allowed for carrying out the work, also the amount of earnest money to be deposited with the application, and the amount of the security deposit and Performance guarantee to be deposited by the successful tenderer and the percentage, if any, to be deducted from bills. Copies of the specifications, designs and drawings and any other documents required in connection with the work signed for the purpose of identification by the officer inviting tender shall also be open for inspection in the e-tender portal.

2. In the event of the tender being submitted by a firm, it must be signed separately by each partner thereof or in the event of the absence of any partner, it must be signed on his behalf by a person holding a power-of-attorney authorizing him to do so, such power of attorney to be produced with the tender, and it must disclose that the firm is duly registered under the Indian Partnership Act, 1952.

2. (A) In case of the tender submitted by a Joint Venture / Consortium, a copy of joint venture / consortium agreement in the specified proforma defining the lead partner should be submitted. The lead partner shall sign all the documents in respect of the works. The documents signed by any other person or firm other than the lead partner shall not be entertained.

3. Receipts for payment made on account of work, when executed by a firm, must also be signed by all the partners, except where contractors are described in their tender as a firm, in which case the receipts must be signed in the name of the firm by one of the partners, or by some other person having due authority to give effectual receipts for the firm.

4. Applicable for item Rate Tender only (D.E.-8)

Any person who submits a tender shall enter the rates in the e-tender portal only, stating at what rate is willing to undertake each item of work. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort, including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of the works to which they refer, written on the envelopes.

4.(A)Applicable for Percentage Rate Tender only(DE-7) In case of Percentage Rate Tenders, tenderer shall fill up the usual printed form, stating at what percentage below/above (in figures as well as in words) the total estimated cost given in Schedule of Quantities at Schedule-A, he will be willing to execute the work. Tenders, which propose any alteration in the work specified in the said form of invitation to tender, or in the time allowed for carrying out the work, or which contain any other conditions of any sort including conditional rebates, will be summarily rejected. No single tender shall include more than one work, but contractors who wish to tender for two or more works shall submit separate tender for each. Tender shall have the name and number of the works to which they refer, written on the envelopes.

A.A.I.

General Rules and Directions



- ~~Deleted~~
4. (B) ~~The rate(s) must be quoted in decimal coinage. Amounts must be quoted in full rupees by ignoring fifty paise and considering more than fifty paise as rupee one.~~
5. The officer inviting tender or his duly authorized representative, will open tenders in the E-portal in the presence of any intending contractors who may be present at the time, and will enter the amounts of the several tenders in a comparative statement in a suitable form. In the event of a tender being accepted, a receipt for the earnest money shall thereupon be given to the contractor who shall thereupon for the purpose of identification sign copies of the specifications and other documents mentioned in Rule – I. In the event of a tender being rejected, the earnest money shall thereupon be returned to the contractor remitting the same, without any interest.
6. The officer inviting tenders shall have the right of rejecting all or any of the tenders and will not be bound to accept the lowest or any other tender.
7. ~~The receipt of an accountant or clerk for any money paid by the contractor towards tender fee will not be considered as any acknowledgement or payment to the officer inviting tender and the contractor shall be responsible for seeing that he procures a receipt signed by the officer inviting tender or a duly authorised Cashier.~~
8. The memorandum of work tendered for and the schedule of materials to be supplied by the department and their issue-rates, shall be filled and completed in the office of the officer inviting tender before the tender form is issued. If a form is issued to an intending tenderer without having been so filled in and incomplete, he shall request the officer to have this done before he completes and delivers his tender.
9. The tenderers shall sign a declaration under the officials Secret Act 1923, for maintaining secrecy of the tender documents drawings or other records connected with the work given to them. The unsuccessful tenderers shall return all the drawings given to them. Use of correcting fluid, any where in tender document is not permitted. Such tender is liable for rejection. Correction if any, shall be initiated.
9. (A) Tenderer is required to place cellophane tape on the quoted rates wherein correction/insertion/ overwriting made, discount offered by tenderer and total amount before submission of tender document.
10. **Applicable for Item Rate Tender only (D.E. – 8)**
In the case of Item Rate Tenders only rates quoted shall be considered. Any tender containing percentage below/ above the rates quoted is liable to be rejected. Rates quoted by the contractor in item rate tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, (i) if a discrepancy is found between rates in figures and in words, then the rates which correspond with the amount worked out by the contractor shall unless otherwise proved be taken as correct. (ii) If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words, then the rates quoted by the contractor in words shall be taken as correct. (iii) Where the rates quoted by the contractor in figures and in words tally, but the amount is not worked out correctly, the rates quoted by the contractor will unless otherwise proved be taken as correct and not the amount. (iv) In event no rate has been quoted for any item(s) leaving space both in figure(s), word(s), and amount blank, it will be presumed that the contractor has included the cost of this / these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.
- ~~10 (A) **Applicable for percentage rate tender only (D.E.-7)** In case of percentage Rate Tenders only percentage quoted shall be considered Any tender containing item rates is liable to be rejected Percentage quoted by the contractor in percentage rate tender shall be accurately filled in figures and words, so that there is no discrepancy However if the contractor has worked out the amount of the tender and if any discrepancy is found in the percentage quoted in words and figures, the percentage~~

A.A.I.



which corresponds with the amount worked out by the contractor shall, unless otherwise proved, be taken as correct. If the amount of the tender is not worked out by the contractor or it does not correspond with the percentage written either in figures or in words, then the percentage quoted by the contractor in words shall be taken as correct. Where the percentage quoted by the contractor in figures and in words tally but the amount is not worked out correctly, the percentage quoted by the contractor will, unless otherwise proved, be taken as correct and not the amount.

- 11. In the case of any tender where unit rate of any item / items appear unrealistic, such tender will be considered as unbalanced and in case the tenderer is unable to provide satisfactory explanation, such a tender is liable to be disqualified and rejected.
- 12. **Applicable for Item Rate Tender only (D.E. – 8)** All rates shall be quoted on the tender form. The amount for each item should be worked out and requisite totals given. Special care should be taken to write the rates in figures as well as in words and the amount in figures only in such a way that interpolation is not possible. The total amount should be written both in figures and in words. In case of figures, the word 'Rs' should be written before the figure of rupees and work 'P' after the decimal figures, e.g. 'Rs. 2.15 P' and in case of words, the word 'Rupees' should precede and the word 'Paise' should be written at the end. Unless the rate is in whole rupees and followed by the word 'only' it should invariably be upto two decimal places. While quoting the rate in schedule of quantities, the word 'only' should be written closely following the amount and it should not be written in the next line.
- 12. **(A)Applicable for Percentage Rate Tender only (D.E. – 7)** In Percentage Rate Tender, the tenderer shall quote percentage below / above (in figures as well as in words) at which he will be willing to execute the work. He shall also work out the total amount of his offer and the same should be written in figures as well as in words in such a way that no interpolation is possible. In case of figures, the word 'Rs' should be written before the figure of rupees and work 'P' after the decimal figures, e.g. 'Rs. 2.15 P' and in case of words, the word 'Rupees' should precede and the word 'Paise' should be written at the end.
- 13. (i) The contractor, whose tender is accepted, will be required to furnish performance guarantee of 5% (Five Percent) of the tendered amount within the period specified in Schedule F. This guarantee shall be in the form of Fixed Deposit Receipts or Guarantee Bonds of Nationalised Bank or any Scheduled Bank but not co-operative or Grahmin Bank, in accordance with the prescribed form, provided confirmatory advice is enclosed.
- 13. (ii) The contractor, whose tender is accepted, will also be required to furnish by way of Security Deposit for the fulfillment of his contract, an amount equal to 5% of the contract amount of the work.
- 13. (iii) In works where condition of submission of Performance Guarantee is not applicable, the security deposit @ 10% of the tendered value shall be deducted. The Security deposit will be collected by deductions from the running bills of the contractor at the rates mentioned above and the earnest money deposited at the time of tenders, will be treated as a part of the Security Deposit.
- 13. (iv) Security deposit will also be accepted in form of Fixed Deposit Receipts / Gurantee Bonds of Nationalised Bank or any Scheduled Bank but not co-operative or Grahmin Bank in accordance with the prescribed form, provided confirmatory advice is enclosed.
- 14. On acceptance of the tender, the name of the accredited representative(s) of the contractor who would be responsible for taking instructions from the Engineer-in-Charge shall be communicated in writing to the Engineer-in-Charge.



General Rules and Directions

15. Sales-tax / VAT / WCT(Except Service Tax), Purchase tax, turnover or any other tax on material in respect of this contract shall be payable by the Contractor and Airports Authority of India will not entertain any claim whatsoever in respect of the same. However, in respect of service tax same shall be paid by the contractor to the concerned department on demand and it will be reimbursed to him by the Engineer-in-Charge after satisfying that it has been actually and genuinely paid by the Contractor.

16. The contractor shall give a list of AAI employees related to him.

17. The tender for the work shall not be witnessed by a contractor or contractors who himself / themselves has / have tendered or who may and has / have tendered for the same work. Failure to observe this condition would render, tenders of the contractors tendering, as well as witnessing the tender, liable to summary rejection.

18. The tender for composite work includes, in addition to building work, all other works such as sanitary and water supply installations drainage installation, electrical work, horticulture work, roads and paths etc. The tenderer apart from being a registered contractor (B&R) of appropriate class, must associate himself with agencies of appropriate class which are eligible to tender for sanitary and water supply drainage, electrical and horticulture works in the composite tender.

19. The contractor shall submit list of works which are in hand (progress) in the following form :-

Name of work	Name and particulars of Divn where work is being executed	Value of work	Position of works in progress	Remarks
1	2	3	4	5

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

CONDITIONS OF CONTRACT

Definitions

1. The **contract** means the documents forming the tender and acceptance thereof and the formal agreement executed between the competent authority on behalf of the Chairman, Airports Authority of India and the Contractor, together with the documents referred to therein including these conditions, the specifications, designs, drawings and instructions issued from time to time by the Engineer-in-Charge and all these documents taken together, shall be deemed to form one contract and shall be complementary to one another.
2. In the contract, the following expressions shall, unless the context otherwise requires, have the meanings, hereby respectively assigned to them:-
 - (i) The expression **works** or **work** shall, unless there be something either in the subject or context repugnant to such construction, be construed and taken to mean the works by or by virtue of the contract contracted to be executed whether temporary or permanent, and whether original, altered, substituted or additional.
 - (ii) The **site** shall mean the land / or other places on, into or through which work is to be executed under the contract or any adjacent land, path or street through which work is to be executed under the contract or any adjacent land, path or street which may be allotted or used for the purpose of carrying out the contract.
 - (iii) The **Contractor** shall mean the individual, firm or company whether incorporated or not, Joint Venture / Consortium undertaking the works and shall include the legal personal representative of such individual or the persons composing such firm or company, or the successors of such firm or company and the permitted assignees of such individual, firm or company.
 - (iv) The Authority or Airports Authority of India means the Chairman, Airports Authority of India.
 - (v) The **Engineer-in-Charge** means the Engineer Officer who shall supervise and be in-charge of the work and who shall sign the contract on behalf of the Chairman, Airports Authority of India as mentioned in Schedule 'F' hereunder.
 - (vi) **AAI shall mean the Airports Authority of India.**
 - (vii) The terms **Executive Director Engineering** means the head of Department of Engineering, Airports Authority of India.
 - (viii) **Accepting Authority** shall mean the authority mentioned in Schedule 'F'.
 - (ix) **Excepted Risk** are risks due to riots (other than those on account of contractor's employees), war (whether declared or not) invasion, act of foreign enemies, hostilities, civil war, rebellion revolution, insurrection, military or usurped power, any acts of Airports Authority of India, damages from aircraft, acts of God, such as earthquake, lightening and unprecedented floods, and other causes over which the contractor has no control and accepted as such by the Accepting Authority or causes solely due to use or occupation by Airports Authority of India of the part of the works in respect of which a certificate of completion has been issued or a cause solely due to Airports Authority of India's faulty design of works.
 - (x) **Market Rate** shall be the rate as decided by the Engineer-in-Charge on the basis of the prevailing cost of materials and labour at the site where the work is to be executed plus the percentage mentioned in Schedule 'F' to cover, all overheads and profits.
 - (xi) **Schedule(s)** referred to in these conditions shall mean the relevant schedule(s) annexed to the tender papers or the standard Schedule of Rates of the government mentioned in Schedule 'F' hereunder, with the amendments thereto issued upto the date of receipt of the tender.

- (xii) **Department** means Airports Authority of India, which invites tender on behalf of Chairman, Airports Authority of India.
- (xiii) **Tendered value** means the value of the entire work as stipulated in the letter of award.
3. Scope and Performance Where the context so requires, words imparting the singular only also include the plural and vice versa. Any reference to masculine gender shall whenever required include feminine gender and vice versa.
4. Headings and Marginal notes to these General Conditions of Contract shall not be deemed to form part thereof or be taken into consideration in the interpretation or construction thereof or of the contract.
5. The contractor shall be furnished, free of cost one certified copy of the contract documents except standard specifications, Schedule of Rates and such other printed and published documents, together with all drawings as may be forming part of the tender papers. None of these documents shall be used for any purpose other than that of this contract.
6. Works to be carried out The work to be carried out under the Contract shall, except as otherwise provided in these conditions, include all labour, materials, tools, plants, equipment and transport which may be required in preparation of and for and in the full and entire execution and completion of the works. The descriptions given in the Schedule of Quantities (Schedule – A) shall, unless otherwise stated, be held to include wastage on materials, carriage and cartage, carrying and return of empties, hoisting, setting, fitting and fixing in position and all other labours necessary in and for the full and entire execution and completion of the work as aforesaid in accordance with good practice and recognized principles.
7. Sufficiency Tender The Contractor shall be deemed to have satisfied himself before tendering as to the of correctness and sufficiency of his tender for the works and of the rates and prices quoted in the Schedule of Quantities, which rates and prices shall, except as otherwise provided, cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the works.
8. Discrepancies and Adjustment of Errors The several documents forming the Contract are to be taken as mutually explanatory of one another, detailed drawings being followed in preference to small scale drawing and figured dimensions in preference to scale and special conditions in preference to General Conditions.
- 8.1 In the case of discrepancy between the Schedule of Quantities, the Specifications and / or the Drawings, the following order of preference shall be observed :-
- (i) Description of Schedule of Quantities.
- (ii) Particular Specification and Special Condition, if any.
- (iii) Drawings.
- (iv) C P W D Specifications.
- (v) Indian Standard Specifications of B I S./ IRC Code of Practice / ASTM standards.
- (vi) Sound Engineering practice as directed by the Engineer-in-charge, whose decision in this regard shall final and binding on the contractor.



- 8.2** If there are varying or conflicting provisions made in any one document forming part of the contract, the Accepting Authority shall be the deciding authority with regard to the intention of the document and his decision shall be final and binding on the contractor.
- 8.3** Any error in description, quantity or rate in Schedule of Quantities or any omission therefrom shall not vitiate the Contract or release the Contractor from the execution of the whole or any part of the works comprised therein according to drawings and specifications or from any of his obligations under the contract.
- 9. Signing of Contract** The successful tenderer / contractor, on acceptance of his tender by the Accepting Authority, shall, within 15 days from the stipulated date of start of the work, sign the contract consisting of:
- (i) The notice inviting tender, all the documents including drawings, if any, forming the tender as issued at the time of invitation of tender and acceptance thereof together with any correspondence leading thereto.
 - (ii) Standard AAI Form as mentioned in Schedule 'F' consisting of:
 - (a) Various standard clauses with corrections upto the date stipulated in Schedule 'F' Along with annexures thereto.
 - (b) AAI Safety Code.
 - (c) Model Rules for the protection of health, sanitary arrangements for workers employed by AAI or its contractors.
 - (d) AAI Contractor's Labour Regulations.
 - (e) List of Acts and omissions for which fines can be imposed.
 - (iii) **No payment for the work done will be made unless contract in form of agreement is signed by the contractor.**



CLAUSES OF CONTRACT

CLAUSE 1

Performance Guarantee

(i)

This clause is applicable for the works for which the estimated cost put to tender is more than Rs.5 crores.

The contractor shall submit an irrevocable Performance Guarantee of 5% (Five percent) of the Tendered amount in addition to other deposits mentioned elsewhere in the contract for his proper performance of the contract agreement, (not withstanding and/or without prejudice to any other provisions in the contract) within period specified in Schedule 'F' from the date of issue of letter of acceptance. This guarantee shall be in the form of Fixed Deposit Receipts or Guarantee Bonds of Nationalised Bank or any Scheduled bank but not Co-operative or Gramine bank in accordance with the form annexed hereto on **page no. 92-93**. In case a fixed deposit receipts of any Bank is furnished by the contractor to the AAI as part of the performance guarantee and the Bank is unable to make payment against the said fixed deposit receipts or Guarantee Bonds, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to make good the deficit.

(ii)

Performance guarantee should be furnished within 30 days of issue of work order. In case the contractor fails to deposit performance guarantee within the stipulated period, no payment for the work done in respect of 1st Running Account Bill will be released to the contractor. Moreover, interest @10% per annum on performance guarantee amount would be levied (non-refundable) for delayed period of submission.

(iii)

The Performance Guarantee shall be initially valid upto the stipulated date of completion(i.e. completion of CMC period) plus 180 days beyond that. In case the time for completion of work gets enlarged, the contractor shall get the validity of Performance Guarantee extended to cover such enlarged time for completion of work. After recording of the completion certificate for the work by the competent authority, the performance guarantee shall be returned to the contractor, without any interest after completion of CMC period of 05 years.

(iv)

The Engineer-in-Charge shall not make a claim under the performance guarantee except for amounts to which the AAI is entitled under the contract (not withstanding and/or without prejudice to any other provisions in the contract agreement) in the event of:

(a)

Failure by the contractor to extend the validity of the Performance Guarantee as described herein above, in which event the Engineer-in-Charge may claim the full amount of the Performance Guarantee.

(b)

Failure by the contractor to pay AAI any amount due, either as agreed by the contractor or determined under any of the Clauses/Conditions of the agreement, within 30 days of the service of notice to this effect by Engineer-in-Charge.

(v)

In the event of the contract being determined or rescinded under provision of any of the Clause/Condition of the agreement, the performance guarantee shall stand forfeited in full and shall be absolutely at the disposal of the AAI.

CLAUSE 1 A

Recovery of Security Deposit

The person/persons whose tender(s) may be accepted (hereinafter called the contractor) shall permit AAI at the time of making any payment to him for work done under the contract to deduct a sum at the rate of 5% of the gross amount of each running bill till the sum alongwith the sum already deposited as earnest money, will amount to security deposit of 5% of the tendered value of the work. Earnest money shall be adjusted first in the security deposit and further recovery of security deposit shall commence only when the update amount of security deposit starts exceeding the earnest money. Such deductions will be made and held by way of Security Deposit unless he/they has/have deposited the amount of Security at the rate mentioned above in the form of fixed deposit



receipts or guarantee bonds of Nationalised Bank or any Scheduled Bank but not Co-operative or Gramin Bank. In case a fixed deposit receipts or Guarantee Bonds of any Bank is furnished by the contractor to the AAI as part of the security deposit and the Bank is unable to make payment against the said fixed deposit receipt, the loss caused thereby shall fall on the contractor and the contractor shall forthwith on demand furnish additional security to the AAI to make good the deficit. In works where condition of submission of performance guarantee is not applicable, the security deposit at the rate of 10% (Ten Percent) of gross amount of each running bill shall be deducted instead of 5%, till the sum along with the sum already deposited as earnest money will amount to security deposit of 10% of the contract value of work. Other conditions shall remain same as stated above.

All compensations or the other sums of money payable by the contractor under the terms of this contract may be deducted from, or paid by the sale of a sufficient part of his security deposit or from the interest arising therefrom, or from any sums which may be due to or may become due to the contractor by AAI on any account whatsoever and in the event of his Security Deposit being reduced by reason of any such deductions or sale as aforesaid, the contractor shall within 10 days make good in fixed deposit receipts or Guarantee Bonds tendered by the Nationalised bank or Scheduled Banks

(but not any Co-operative or Gramin bank) (if deposited for more than 12 months) endorsed in favour of the Airports Authority of India, any sum or sums which may have been deducted from, or raised by sale of his security deposit or any part thereof. The security deposit shall be collected from the running bills of the contractor at the rates mentioned above and the Earnest money deposited at the time of tenders will be treated as part of the Security Deposit.

The security deposit as deducted above can be released against bank guarantee issued by Nationalised Bank or any Scheduled Bank (but not from Co-operative / Gramin Bank), on its accumulations to a minimum of Rs. 5 lakh subject to the condition that amount of such bank guarantee, except last one, shall not be less than Rs. 5 lakh.

Note 1:

Provided further that the validity of Bank Guarantee including the one given against the earnest money shall be in conformity with provisions contained in the clause 17 which shall be extended from time to time depending upon extension of contract under provision of Clause 2 & Clause 5.

Note 2:

Note 1 above shall be applicable for both clause 1 and 1 A.

Clause 2

Compensation for Delay

If the contractor fails to maintain the required progress in terms of clause 5 or to complete the Work and clear the site on or before the contract or extended date of completion, he shall, without prejudice to any other right or remedy available under the law to the AAI on account of such breach, pay as agreed compensation the amount calculated at the rates stipulated below as the authority specified in schedule 'F' (whose decision in writing shall be final and binding) may decide on the amount of tendered value of the work for every completed day/month (as applicable) that the progress remains below that specified in Clause 5 or that the work remains incomplete.

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

(i) Compensation for delay of work

For repair works costing upto Rs.10.00 lakh:

1.0% (one percent) of contract value Per week of delay.

For all other works

0.5% (half percent) of contract value' Per week of delay.



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

The amount of compensation may be adjusted or set-off against any sum payable to the Contractor under this or any other contract with AAI. In case, the contractor does not achieve a particular milestone mentioned in schedule F, or the re-scheduled milestone(s) in terms of Clause 5.4, the amount shown against that milestone shall be withheld, to be adjusted against the compensation levied at the final grant of Extension of Time. With-holding of this amount on failure to achieve a milestone, shall be automatic without any notice to the contractor. However, if the contractor catches up with the progress of work on the subsequent milestone(s), the withheld amount shall be released. In case the contractor fails to make up for the delay in subsequent milestone(s), amount mentioned against each milestone missed subsequently also shall be withheld. However, no interest, whatsoever, shall be payable on such withheld amount.

Incentive for early completion

Clause 2A

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

Clause 2 B

Release of withheld amount towards compensation for delay over and above Rs. 50.00 lacs, can be made against Bank Guarantee (as per Annex-3) pending finalization of extension of time/grant of final extension of time by Competent Authority as per contract. Concerned ED(Engg) will authorize such action, contract-wise on receipt of proposal from the Project-in-Charge/RHQ.

Clause 3

When Contract can be Determined

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

- (i) If the contractor having been given by the Engineer-in-Charge a notice in writing to rectify, reconstruct or replace any defective work or that the work is being performed in an inefficient or otherwise improper or unworkmanlike manner shall omit to comply with the requirement of such notice for a period of seven days thereafter.
- (ii) If the contractor has, without reasonable cause, suspended the progress of the work or has failed to proceed with the work with due diligence so that in the opinion of the Engineer-in-Charge (which shall be final and binding) he will be unable to secure completion of the work by the date for completion and continues to do so after a notice in writing of seven days from the Engineer-in-Charge.
- (iii) If the contractor fails to complete the work within the stipulated date or items of work with individual date of completion, if any stipulated, on or before such date(s) of completion and does not complete them within the period specified in a notice given in writing in that behalf by the Engineer-in-Charge.
- (iv) If the contractor persistently neglects to carry out his obligations under the contract and / or commits default in complying with any of the terms and conditions of the

- contract and does not remedy it or take effective steps to remedy it within 7 days after a notice in writing is given to him in that behalf by the Engineer-in-Charge.
- (v) If the contractor shall offer or give or agree to give to any person in AAI service or to any other person on his behalf any gift or consideration of any kind as an inducement or reward for doing or forbearing to do or for having done or forborne to do any act in relation to the obtaining or execution of this or any other contract for AAI.
 - (vi) If the contractor shall enter into a contract with Airports Authority of India in connection with which commission has been paid or agreed to be paid by him or to his knowledge, unless the particulars of any such commission and the terms of payment thereof have been previously disclosed in writing to the Engineer-in-charge.
 - (vii) If the contractor shall obtain a contract with AAI as a result of wrong tendering or other non-bonafide methods of competitive tendering.
 - (viii) If the contractor being an individual, or if a firm, any partner thereof shall at any time be adjudged insolvent or have a receiving order or order for administration of his estate made against him or shall take any proceedings for liquidation or composition (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) under any Insolvency Act for the time being in force or make any conveyance or assignment of his effects or composition or arrangement for the benefit of his creditors or purport so to do, or if any application be made under any Insolvency Act for the time being in force for the sequestration of his estate or if a trust deed be executed by him for benefit of his creditors.
 - (ix) If the contractor being a company shall pass a resolution or the court shall make an order that the company shall be wound up or if a receiver or a manager on behalf of a creditor shall be appointed or if circumstances shall arise which entitle the court or the creditor to appoint a receiver or a manager or which entitle the court to make a winding up order.
 - (x) If the contractor shall suffer an execution being levied on his goods and allow it to be continued for a period of 21 days.
 - (xi) If the contractor assigns, transfers, sublets (engagement of labour on a piece-work basis or of labour with materials not to be incorporated in the work, shall not be deemed to be subletting) or otherwise parts with or attempts to assign, transfer, sublet or otherwise parts with the entire works or any portion thereof without the prior written approval of the Engineer-in-Charge.
When the contractor has made himself liable for action under any of the cases aforesaid, the Engineer-in-Charge on behalf of the AAI shall have powers :
 - (a) To determine the contract as aforesaid (of which termination notice in writing to the contractor under the hand of the Engineer-in-Charge shall be conclusive evidence). Upon such determination, the Earnest Money Deposit, Security Deposit already recovered and Performance Guarantee under the contract shall be liable to be forfeited and shall be absolutely at the disposal of the AAI.
 - (b) After giving notice to the contractor to measure up the work of the contractor and to take such whole, or the balance or part thereof, as shall be un-executed out of his hands and to give it to another contractor to complete the work. The contractor, whose contract is determined as above, shall not be allowed to participate in the tendering process for the balance work. **Note: Refer clause no.47**



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

CLAUSE 3 A

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

CLAUSE 4

Contractor liable to pay compensation even if action not take under Clause-3

In any case in which any of the powers conferred upon the Engineer-in-Charge by Clause-3 thereof, shall have become exercisable and the same are not exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions hereof and such powers shall notwithstanding be exercisable in the event of any future case of default by the contractor and the liability of the contractor for compensation shall remain unaffected. In the event of the Engineer-in-Charge putting in force all or any of the powers vested in him under the preceding clause he may, if he so desires after giving a notice in writing to the contractor, take possession of (or at the sole discretion of the Engineer-in-Charge which shall be final and binding on the contractor) use as on hire (the amount of the hire money being also in the final determination of the Engineer-in-Charge) all or any tools, plant, materials and stores, in or upon the works, or the site thereof belonging to the contractor, or procured by the contractor and intended to be used for the execution of the work/ or any part thereof, paying or allowing for the same in account at the contract rates, or, in the case of these not being applicable, at current market rates to be certified by the Engineer-in-Charge, whose certificate thereof shall be final, and binding on the contractor, clerk of the works, foreman or other authorised agent to remove such tools, plant, materials, or stores from the premises (within a time to be specified in such notice) in the event of the contractor failing to comply with any such requisition, the Engineer-in-Charge may remove them at the contractor's expense or sell them by auction or private sale on account of the contractor and his risk in all respects and the certificate of the Engineer-in-Charge as to the expenses of any such removal and the amount of the proceeds and expenses of any such sale shall be final and conclusive against the contractor.

CLAUSE 5

Time and Extension for Delay

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



5.1 After the Contract is concluded, within 15 days, the Contractor shall submit a Time and Progress Chart for each mile stone and get it approved by the Department. The Chart shall be prepared in direct relation to the time stated in the Contract documents for completion of items of the works. It shall indicate the forecast of the dates of commencement and completion of various trades of sections of the work and may be amended as necessary by agreement between the Engineer-in-Charge and the Contractor within the limitations of time imposed in the Contract documents, and further to ensure good progress during the execution of the work, the contractor shall in all cases in which the time allowed for any work, exceeds one month (save for special jobs for which a separate programme has been agreed upon) complete the work as per mile stones given in Schedule 'F'.

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

- (i) force majeure, or
- (ii) abnormally bad weather, or
- (iii) serious loss or damage by fire, or
- (iv) civil commotion, local commotion of workmen, strike or lockout, affecting any of the trades employed on the work, or
- (v) delay on the part of other contractors or tradesmen engaged by Engineer-in-Charge in executing work not forming part of the Contract, or
- (vi) non-availability of stores, which are the responsibility of AAI to supply or
- (vii) non-availability or break down of tools and Plant to be supplied or supplied by AAI or
- (viii) any other cause which, in the absolute discretion of the Engineer-in-Charge is beyond the Contractor's control.

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

5.3 Request for rescheduling of Mile stones and extension of time, to be eligible for consideration, shall be made by the Contractor in writing within fourteen days of the happening of the event causing delay on the prescribed form. The contractor may also, if practicable, indicate in such a request the period for which extension is desired.

5.4 In any such case the Engineer-in-Charge may give a fair and reasonable extension of time and reschedule the Milestones for completion of work. Such extension shall be communicated to the Contractor by the Engineer-in-charge in writing, within 3 months of the date of receipt of such request. Non-application by the contractor for extension of time shall not be a bar for giving a fair and reasonable extension by the Engineer-in-charge and this shall be binding on the contractor.

CLAUSE 6

Measurements of Work Done

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

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

All measurements and levels shall be taken jointly by the Engineer-in-Charge or his authorised representative and by the contractor or his authorised representative from



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

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

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

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

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

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

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

Clause 6 A

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

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

**Computerised
Measurement
Book**



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

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

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

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

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

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

The contractor shall give not less than seven days' notice to the Engineer-in-Charge or his authorized representative in charge of the work before covering up or otherwise placing beyond the reach of checking and / or test checking the measurement of any work in order that the same be checked and / or test checked and correct dimensions thereof be taken before the same is covered up or placed



beyond the reach of checking and / or test checking measurement and shall not cover up and place beyond reach of measurement any work without consent in writing of the Engineer-in-charge or his authorized representative incharge of the work who shall within the aforesaid period of seven days inspect the work, and if any work shall be covered up or placed beyond the reach of checking and / or test checking measurements without such notice having been given or the Engineer-in-charge's consent being obtained in writing the same shall be uncovered at the contractor's expense, or in default thereof no payment or allowance shall be made for such work or the materials with which the same was executed.

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

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

Payment on Intermediate Certificate to be Regarded as Advances

CLAUSE 7

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

All such interim payments shall be regarded as payment by way of advances against final payment only and shall not preclude the requiring of bad, unsound and imperfect or unskilled work to be rejected, removed, taken away and reconstructed or re-erected. Any certificate given by the Engineer-in-charge relating to the work done or materials delivered forming part of such payment, may be modified or corrected by any subsequent such certificate(s) or by the final certificate and shall not by itself be conclusive evidence that any work or materials to which it relates



is/are in accordance with the contract and specifications. Any such interim payment, or any part thereof shall not in any respect conclude, determine or affect in any way powers of the Engineer-in-charge under the contract or any of such payments be treated as final settlement and adjustment of accounts or in any way vary or affect the contract.

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

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

**C o m p l e t i o n
Certificate and
C o m p l e t i o n
Plans**

CLAUSE 8

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

CLAUSE 8 A

**Contractor to
keep site clean**

When the annual repairs and maintenance of works are carried out, the splashes and droppings from white washing, colour washing, painting etc., on walls, floor, windows etc. shall be removed and the surface cleaned simultaneously with the completion of these items of work in the individual rooms, quarters or premises etc.



Where the work is done without waiting for the actual completion of all the other items of work in the contract. In case the contractor fails to comply with the requirements of this clause, the Engineer-in-charge shall have the right to get this work done at the cost of the contractor either departmentally or through any other agency. Before taking such action, the Engineer-in-charge shall give ten days notice in writing to the contractor.

Completion Plans to be Submitted by the Contractor

CLAUSE 8 B

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

In case, the contractor fails to submit the completion plan as aforesaid, he shall be liable to pay a sum equivalent to 2.5% of the value of the work subject to a ceiling of Rs. 15,000/- (Rupees Fifteen Thousand Only) as may be fixed by the General Manager Engg. concerned and in this respect the decision of the General Manager Engg shall be final and binding on the contractor.

Payment of final bill

CLAUSE 9

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

- (i) If the tendered value of work is upto Rs.5 lacs : 3 months
- (ii) If the tendered value of work exceeds Rs.5 lacs : 6 months

Payment of Contractor's Bills to Banks

CLAUSE 9 A

Payments due to the contractor and refund of various nature may, if so desired by him and wherever possible in banks be made through electronic payment mechanism instead of direct to him, provided that the contractor furnishes to the Engineer-in-Charge.

- (i) Informations as per proforma attached.
- (ii) An authorisation in the form of a legally valid document such as power of attorney conferring authority on the bank to receive payments and
- (iii) His own acceptance of the correctness of the amount made out as being due to him by Authority or his signature on the bill or other claim preferred against Authority before settlement by the Engineer-in-charge of the account or claim by payment to the bank. While the receipt given by such banks shall constitute a full and sufficient discharge for the payment, the contractor shall whenever possible present his bills duly receipted and discharged through his bank.

Nothing herein contained shall operate to create in favour of the bank any rights or equities vis-à-vis the Airports Authority of India.



**Materials
supplied by
Authority**

CLAUSE 10

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

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

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

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

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

On being required to return the stores/ materials, the contractor shall hand over the stores/ materials on being paid or credited such price as the Engineer-in-charge shall determine, having due regard to the condition of the stores/ materials. The price allowed for credit to the contractor, however, shall be at the prevailing market rate not exceeding the amount charged to him, excluding the storage charge, if any. The decision to the Engineer-in-charge shall be final and conclusive. In the event of breach of the aforesaid condition, the contractor shall in addition to throwing himself open to account for contravention of the terms of the licences or permit and/ or for



criminal breach of trust, be liable to Authority for all advantages or profits resulting or which in the usual course would have resulted to him by reason of such breach. Provided that the contractor shall in no case be entitled to any compensation or damages on account of any delay in supply or non-supply thereof all or any such materials and stores provided further that the contractor shall be bound to execute the entire work if the materials are supplied by the Authority within the original scheduled time for completion of the work plus 50% thereof or schedule time plus 6 months whichever is more in the time of completion of work exceeds 12 months, but if a part of the materials only has been supplied within the aforesaid period, then the contractor shall be bound to do so much of the work as may be possible with the materials and stores supplied in the aforesaid period. For the completion of the rest of the work, the contractor shall be entitled to such extension of time as may be determined by the Engineer-in-charge whose decision in this regard shall be final and binding on the contractor.

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

CLAUSE 10 A

Materials to be provided by the contractor and Mandatory Tests

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

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

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

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



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

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

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

Details in respect of all mandatory test shall be maintained (as per the proforma on page...90....) and attached with each Running Account Bill.

CLAUSE 10 B

(i). The Contractor, on signing an indenture in the form to be specified by the Engineer-in-charge, shall be entitled to be paid during the progress of the execution of the work upto 75% of the assessed value of any materials which are in the opinion of the Engineer-in-charge nonperishable, nonfragile and noncombustible and are in accordance with the contract and which have been brought on the site in connection therewith and are adequately stored and/ or protected against damage by weather or other causes but which have not at time of advance been incorporated in the works when materials on account of which an advance has been made under this sub-clause are incorporated in the work, the amount of such advance shall be recovered/ deducted from the next payment made under any of the clause or clauses of this contract.

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

(ii) In the case of contracts valued at over Rs. 50 Lakhs.

Mobilisation advance not exceeding 10% of the tendered value may be given, subjected to the availability of funds and if requested by the contractor in writing within one month of the order to commence the work. In such a case, the contractor shall execute a Bank Guarantee Bond from Nationalised Bank or any Scheduled Bank but not Co-operative or Gramin Bank as specified by Engineer-in-charge for 110% of full amount of mobilisation advance before such advance is released. Such advance shall be in two or more instalments to be determined by the Engineer-in-Charge at his sole discretion. The first instalment of such advance shall be released by the Engineer-in-Charge to the contractor on a request made by the contractor to the Engineer-in-Charge in this behalf. The second and subsequent instalments shall be released by the Engineer-in-Charge only after the contractor furnishes a proof of the satisfactory utilisation of the earlier instalment to the entire satisfaction of the Engineer-in-Charge.

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

Secured Advance on Non-perishable materials

Mobilisation Advance



Interest & Recovery

- (iii) **Conditions regarding interest & recovery**
- a) For the work costing more than Rs. 100 crores, the mobilization advance shall be given in installment with single installment not exceeding Rs. 5.00 crores. Subsequently installment shall be released only after submission of utilization certificate by the contractor for the earlier installment to the satisfaction of Engineer –in-Charge. However, recovery system shall be same for all value of work.
 - b) In case of delay in handing over of site/issue of drawings or any other reason attributable to AAI, recovery of the mobilization advanced may be rescheduled by Engineer- in- charge with the approval of technical sanction authority.
 - c) The agency shall accordingly submit Bank Guarantee for 110% of full amount of mobilization advance in the same proportion in parts and valid for the period as detailed above, plus 3 months encashment period. In case the requisite amount as recoverable above is not available in on-account payments mentioned above, the agency shall deposit the same within 7 days of its due otherwise all Bank Guarantees submitted by the agency towards mobilization advance shall be encashed by Engineer-in-charge.

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CLAUSE 10 C

Payment on Account of Increase in Prices/ Wages due to Statutory Order(s)

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

If after submission of the tender, the price of any material incorporated in the works (excluding the material covered under clause 10CA and not being a material supplied from the Engineer-in-charge's stores in accordance with clause 10 thereof) and / or wages of labour as prevailing at the time of last stipulated date of receipt of tender including extensions, if any, is decreased as a direct result of the coming into force of any fresh law or statutory rule or order (but not due to any changes in sales tax/ VAT). Authority shall in respect of materials incorporated in the works (excluding the material covered under clause 10CA and not being materials supplied from the Engineer-in-charge's stores in accordance with Clause 10 hereof) and/ or labour engaged on the execution of the work after the date of coming into force of such law, statutory rule or order be entitled to deduct from the dues of the contractor, such amount as shall be equivalent to the difference between the prices of the materials and/ or wages as prevailed at the time of the last stipulated date for receipt of tenders including extensions if any for the work and the prices of materials and/ or wages of labour on the coming into force of such law, statutory rule or order. This will be applicable for the contract period including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2

Engineer-in-charge may call books of account and other relevant documents from the contractor to satisfy himself about reasonability of increase in prices of materials and wages. The contractor shall, within a reasonable time of his becoming aware of any alteration in the price of any such materials and/ or wages of labour, give notice thereof



Payment due to variation in prices of materials after receipt of tender

to the Engineer-in-charge stating that the same is given pursuant to this condition together with all information relating thereto which he may be in position to supply.

For this purpose, the labour component of the work executed during period under consideration shall; be the percentage as specified in Schedule F, of the value of work done during that period and the increase / decrease in labour shall be considered on the minimum daily wages in rupees of any unskilled adult male mazdoor, fixed under any law, statutory rule or order.

CLAUSE 10 CA

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

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

The increase/ decrease in prices of cement, steel reinforcement and structural steel shall be determined by the Price indices issued by the Director General (Works), CPWD, for **Bitumen** and other items provided in the Schedule 'F', this shall be determined by the All India Wholesale Price Indices of materials as published by Economic Advisor to Government of India, Ministry of Commerce and Industry. Base price for cement, steel reinforcement and structural steel as issued under authority of Director General (Works) CPWD applicable for Delhi including Noida, Gurgaon, Faridabad and Ghaziabad and for other places as issued under the authority of Zonal Chief Engineer, CPWD and base price of other materials issued by concerned Zonal Chief Engineer and base price of **Bitumen** shall be taken as basic price + excise issued at **nearest delivery point of Govt. refinery**, as indicated in Schedule 'F' as valid on the last stipulated date of receipt of tender, including extension if any and for the period under consideration. In case, price index of a particular material is not issued by Ministry of Commerce and Industry then the price index of nearest similar material as indicated in Schedule F shall be followed.

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

$$V = P \times Q \times \frac{CI - CI_0}{CI_0}$$

Where

V = Variation in material cost i.e. increase or decrease in the amount in rupees to be paid or recovered

P = Base price of material as issued under authority of DG(W), CPWD or concerned Zonal Chief Engineer CPWD and for **Bitumen** base price shall be taken as basic price + excise issued at **nearest delivery point of Govt. refinery** as indicated in Schedule F valid at the time of the last stipulated date of receipt of tender including extensions if any,

Q = Quantity of material brought at site for bonafide use in the works since previous bills

CI₀ = Price index for cement, steel reinforcement bars and structural steel as issued by the DG (W), CPWD as valid on the last stipulated date of receipt of tenders including extensions, if any. For **Bitumen** and other items, if any provided in Schedule F, All India Wholesale Price Index for the material as published by the Economic Advisor to



Government of India, Ministry of Commerce and Industry as valid on the last stipulated date of tenders including extensions, if any,
 CI = Price index for cement, steel reinforcement bars and structural steel as issued under the authority of DG(W), CPWD for period under consideration. For **Bitumen** and other items if any, provided in Schedule 'F' All India Wholesale Price Index for the material for the period under consideration as published by Economic Advisor to Government of India, Ministry of Industry and Commerce for period under consideration.

It will be the responsibility of the contractor to arrange transport and suitable storage facility to store the bulk bituman at their own cost and nothing extra shall be paid for the same. However, If contractors are required to use the drum bitumen, they shall be reimbursed the difference in rates of drum bitumen and bulk bitumen prevailing at the time minus the cost of empty drum at the rate of Rs. per drum on production of necessary voucher/documents.

Note:

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

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

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

CLAUSE 10 CC

~~Deleted~~

Payment due to Increase/ Decrease in Prices / Wages (excluding material covered under clause 10CA) after Receipt of Tender for works.

If the prices of materials (not being materials supplied or services rendered at fixed prices by the Department in accordance with clause 10 & 34 thereof) and/ or wages of labour required for execution of work increase, the contractor shall be compensated for such increase as per provisions detailed below and the amount of the contract shall accordingly be varied, subject to the condition that such compensation for escalation in prices and wages shall be available only for the work done during the stipulated period of the contract including the justified period extended under the provisions of clause 5 of the contract without any action under clause 2.

However, for the work done during the justified period extended as above, the compensation as detailed below will be limited to prices/ wages prevailing at the time of stipulated date of completion or as prevailing for the period under consideration, whichever is less. No such compensation shall be payable for a work for which the stipulated period of completion is equal to or less than the time as specified in **Schedule F**. Such compensation for escalation in the prices of materials and labour, when due, shall be worked out based on the following provisions:

- (i) The base date for working out such escalation shall be the last stipulated date of the receipt of tenders including extension, if any.
- (ii) The cost of work on which escalation will be payable shall be reckoned as below:
 - (a) Gross value of work done upto this quarter (A)
 - (b) Gross value of work done upto the last quarter (B)
 - (c) Gross value of work done since previous quarter (A-B) (C)



(d) Full assessed value of secured advance (excluding material covered under clause 10CA) fresh paid in this quarter	(D)
(e) Full assessed value of secured advance (excluding material covered under clause 10CA) recovered in this quarter	(E)
(f) Full assessed value of secured advance for which escalation is payable in this quarter (D-E)	(F)
(g) Advance payment made during this quarter	(G)
(h) Advance payment recovered during this quarter	(H)
(i) Advance payment for which escalation is payable in this quarter (G-H)	(I)
(j) Extra items/ deviated quantities of items paid as per clause 12 based on prevailing market rates during this quarter: Then, M=(C+F+I-J) N= 0.85 M	(J)
(k) Less cost of material supplied by the department as per clause 10 and recovered during the quarter	(K)
(l) Less cost of services rendered at fixed charges as per Clause 34 and recovered during the quarter	(L)
Cost of work for which escalation is applicable	
W=N-(K+L) Deleted	
(iii) Components for materials, (except Bitumen, cement, reinforcement bars, structural steel or others material covered under clause 10CA) labour, P.O.L. etc. shall be pre determined for every work and incorporated in the conditions of contract attached to the tender papers included in Schedule E. The decision of the Engineer-in-charge in working out such percentage shall be binding on the contracts.	
(iv) The compensation for escalation for other materials (except Bitumen, cement, reinforcement bars, structural steel or others material covered under clause 10CA) and P.O.L. shall be worked as per the formula given below:	
(a) Adjustment for civil component (except Bitumen, cement, reinforcement bars, structural steel and others material covered under clause 10CA) /electrical component of construction	
$V_m = W \times \frac{X_m}{100} \times \frac{MI - MI_0}{MI_0}$	
Vm = Variation in material cost i.e. increase or decrease in the amount in rupees to be paid or recovered	
W = Cost of work done, worked out as indicated in sub para (ii) of Clause 10 CC	
X _m = Component of materials (except Bitumen, cement, reinforcement bars, structural steel and other materials covered under clause 10CA) expressed as a percent of the total value of the work.	
MI = All India wholesale price index for civil component/ electrical component* of construction material as worked out on the basis of All India Wholesale Price Index for Individual Commodities/ Group Items for the period under consideration as published by the Economic Advisor to Government of India, Ministry of Industry & Commerce and applying weightage to the Individual Commodities/ Group Items (in respect to the justified period extended under the provisions of clause 5 of the contract without any action under Clause 2, the index prevailing at the time of stipulated date of completion or the prevailing index of the period under consideration, whichever is less, shall be considered).	

Material



MI₀ = All India wholesale price index for civil component/ electrical component* of construction material as worked out on the basis of All India Wholesale Price Index for Individual Commodities/ Group Items valid on the last stipulated date of receipt of tenders including extensions, if any, as published by the Economic Advisor to Government of India, Ministry of Industry and Commerce and applying weightage to the Individual Commodities/ Group Items.
 * Note: relevant component only will be applicable

(b) Adjustment for the component of **POL**

$$V_F = W \times Z \times \frac{FI - FI_0}{100} \times FI_0$$

VF = Variation in cost of Fuel, Oil & Lubricant i.e. increase or decrease in the amount in rupees to be paid or recovered

W = Cost of work done, worked out as indicated in sub para (ii) of Clause 10 CC

Z = Component of Fuel, Oil and Lubricant expressed as a percentage of the total value of the work

FI = All India wholesale price index for Fuel, Oil and Lubricant for the period under consideration as published by the Economic Advisor to Government of India, Ministry of Industry & Commerce (in respect to the justified period extended under the provisions of clause 5 of the contract without any action under Clause 2, the index prevailing at the time of stipulated date of completion or the prevailing index of the period under consideration, whichever is less, shall be considered)

FI₀ = All India wholesale price index for Fuel, Oil and Lubricant valid on the last stipulated date of receipt of tenders including extensions, if any.

(v) The following principles shall be followed while working out the indices mentioned para (iv) above: **Deleted**

a) The compensation for escalation shall be worked out at quarterly intervals and shall be with respect to the cost of work done as per bills paid during the three calendar months of the said quarter. The first such payment shall be made at the end of three months after the month (excluding) in which the tender was accepted and thereafter at three months' interval. At the time of completion of the work, the last period for payment might become less than 3 months depending on the actual date of completion.

b) The index (MI/FI etc.) relevant to any quarter/ period for which such compensation is paid shall be the arithmetical average of the indices relevant to the three calendar months. If the period up to date of completion after the quarter covered by the last such installment of payment is less than three months, the index MI and FI shall be the average of the indices for the months falling within that period.

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

$$V_L = W \times \frac{Y}{100} \times \frac{LI - LI_0}{LI_0}$$

V_L = Variation in labour cost i.e. amount of increase or decrease in rupees to be paid or recovered



- W = Value of work done, worked out as indicated in sub para (ii) above
- Y = Component of labour expressed as a percentage of the total value of the work
- LI = Minimum wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as applicable on the last date of the quarter previous to the one under consideration (in respect to the justified period extended under the provisions of clause 5 of the contract without any action under Clause 2, the minimum wage prevailing on the last date of quarter previous to the quarter pertaining to stipulated date of completion or the minimum wage prevailing on the last date of the quarter previous to the one under consideration, whichever is less, shall be considered)
- Ll₀ = Minimum daily wage in rupees of an unskilled adult male mazdoor, fixed under any law, statutory rule or order as on the last stipulated date of receipt of tender including extension if any.
- (vii) The following principles will be followed while working out the compensation as per sub para (vi) above:
- (a) The minimum wage of an unskilled male mazdoor mentioned in sub para (vi) above shall be the higher of the wage notified by Government of India, Ministry of Labour and that notified by the local administration both relevant to the place of work and the period of reckoning.
 - (b) The escalation for labour also shall be paid at the same quarterly intervals when escalation due to increase in cost of materials and/ or P.O.L. is paid under this clause. If such revision of minimum wages take place during any such quarterly intervals, the escalation compensation shall be payable at revised rates only for work done in subsequent quarters.
 - (c) Irrespective of variations in minimum wages of any category of labour, for the purpose of this clause, the variation in the rate for an unskilled adult male mazdoor alone shall form the basis for working out the escalation compensation payable on the labour component.
- (viii) In the event the price of materials and/ or wages of labour required for execution of the work decrease/s, there shall be a downward adjustment of the cost of work so that such price of materials and/ or wages of labour shall be deductible from the cost of work under this contract and in this regard the formula herein before stated under this Clause 10CC shall *mutatis mutandis* apply, provided that:
- (a) No such adjustment for the decrease in the price of materials and/or wages of labour aforementioned would be made in case of contracts in which the stipulated period of completion of the work is equal to or less than the time as specified in Schedule F.
 - (b) The Engineer-in-charge shall otherwise be entitled to lay down the procedure by which the provision of this sub clause shall be implemented from time to time and the decision of the Engineer-in-charge in this behalf shall be final and binding on the contractor.
- (ix) Provided always that :
- (a) Where provisions of clause 10CC are applicable, provisions of clause 10 C will not be applicable but provisions of clause 10CA will be applicable.
 - (b) Where provisions of clause 10CC are not applicable, provisions of Clause 10C and 10CA will become applicable.



Clauses of Contract

Work to be Executed in Accordance with Specifications, Drawings, Orders etc.

CLAUSE 11

The contractor shall execute the whole and every part of the work in the most substantial and workmanlike manner both as regards materials and otherwise in every respect in strict accordance with the specifications. The contractor shall also conform exactly, fully and faithfully to the design, drawings and instructions in writing in respect to the work signed by the Engineer in charge and the contractor shall be furnished free of charge one copy of the contract documents together with specifications, designs, drawings and instructions as are not included in the standard specifications of Central Public Works Department specified in Schedule F or in any Bureau of Indian Standard or any other published standard or code or Schedule of Rates or any other printed publication referred to elsewhere in the contract. The contractor shall comply with the provisions of the contract and with the care and diligence execute and maintain the works and provide all labour and materials, tools and plants including for measurements and supervision of all works, structural plans and other things of temporary or permanent nature required for such execution and maintenance in so far as the necessity for providing these, is specified or is reasonably inferred from the contract. The contractor shall take full responsibility for adequacy suitability and safety of all the works and methods of construction.

Deviations / Variations Extent And Pricing

CLAUSE 12

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

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

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

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

Deviation, Extra Items and Pricing

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

Deviation, Substituted Items Pricing

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

A.A.I.



**Deviation,
Deviated
Quantities,
Pricing**

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

In the case of contract items, substituted items, contract cum substituted items, which exceed the limits laid down in schedule F, the contractor may within fifteen days of receipt of order or occurrence of the excess, claim revision of the rates, supported by proper analysis for the work in excess of the above mentioned limits, provided that if the rates so claimed are in excess of the rates specified in the schedule of quantities, the Engineer-in-Charge shall within Six weeks of receipt of the claims supported by analysis, after giving consideration to the analysis of the rates submitted by the contractor, determine the rates on the basis of the market rates and the contractor shall be paid in accordance with the rates so determined.

12.3 The provisions of the preceding paragraph shall also apply to the decrease in the rates of items for the work in excess of the limits laid down in Schedule F, and the Engineer-in-Charge shall after giving notice to the contractor within one month of occurrence of the excess and after taking into consideration any reply received from him within fifteen days of the receipt of the notice, revise the rates for the work in question within one month of the expiry of the said period of fifteen days having regard to the market rates.

12.4 The contractor shall send to the Engineer-in-Charge once every three months, an upto date account giving complete details of all claims for additional payments to which the contractor may consider himself entitled and of all additional work orderrd by the Engineer-in-Charge, which he has executed during the preceding quarter failing which the contractor shall be deemed to have waived his right. However, the Executive Director Engineering may authorise consideration of such claims on merits.

12.5 For the purpose of operation of Schedule F, the following works shall be treated as works relating to foundation:

- i) For buildings, compound walls, plinth level or 1.2 metres (4 feet) above ground level, whichever is lower excluding items of flooring and D.P.C. but including base concrete, below the floors. Deleted
- ii) For abutments, piers, retaining walls of culverts and bridges, walls of water reservoirs, the bed of floor level.
- iii) For retaining walls where floor level is not determinate, 1.2 metres above the average ground level or bed level.
- iv) For roads, all items of excavation and filling including treatment of sub-base.

12.6 Any operation incidental to or necessarily has to be in contemplation of tenderer while filing, tender, or necessary for proper execution of the item included in the Schedule of quantities or in the schedule of rates mentioned above, whether or not, specifically indicated in the description of the item and the relevant specifications, shall be deemed to be included in the rates quoted by the tenderer or the rate given in the said schedule of rates, as the case may be. Nothing extra shall be admissible for such operations.

CLAUSE 13

If at any time after acceptance of the tender, AAI shall decide to abandon or reduce the scope of the works for any reasons whatsoever and hence not require the whole or any part of the works to be carried out, the Engineer-in-Charge shall give notice in writing to that effect to the contractor and the contractor shall act accordingly in the

**Foreclosure of
contract due to
Abandonment
or Reduction in
Scope of Work**



matter. The contractor shall have no claim to any payment of compensation or otherwise whatsoever, on account of any profit or advantage which he might have derived from the execution of the works in full but which he did not derive in consequence of the foreclosure of the whole or part of the works.

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

- i) Provided that the contractor shall be paid the cartage charges only of materials actually and bonafide brought to the site of work by the contractor and rendered surplus and then taken back by the contractor, provided AAI shall have the option to take over contractor's materials or any part thereof either brought to site or of which the contractor is legally bound to accept delivery from suppliers (for incorporation in or incidental to the work). For materials taken over or to be taken over by AAI, cost of such materials as detailed by Engineer-in-charge shall be paid. The cost shall, however, take into account purchase price, cost of transportation and deterioration or damage which may have been caused to materials whilst in the custody of the contractor.
- ii) If any materials supplied by AAI are rendered surplus, the same except normal wastage shall be returned by the contractor to AAI at rates not exceeding those at which these were originally issued, less allowance for any deterioration or damage which may have been caused whilst the materials were in the custody of the contractor. In addition, cost of transporting such materials from site to AAI stores, if so required by AAI, shall be paid.

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

CLAUSE 14 –

**Dismantled
Material
Authority
Property**

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

CLAUSE 15

**Suspension
of Work**

(i) The contractor shall, on receipt of the order in writing of the Engineer-in-Charge, (whose decision shall be final and binding on the contractor) suspend the progress of the works or any part thereof for such time and in such manner as the Engineer-in-Charge may consider necessary so as not to cause any damage or injury to the work already done or endanger the safety thereof for any of the following reasons:

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

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



- (ii) If the suspension is ordered or reasons (b) and (c) in sub-para (i) above:
 - (a) the contractor shall be entitled to an extension of time equal to the period of every such suspension PLUS 25% for completion of the item or group of items of work for which a separate period of completion is specified in the contract and of which the suspended work forms a part, and;
 - (b) If the total period of all such suspensions in respect of an item or group of items or work for which a separate period of completion is specified in the contract exceeds thirty days, the contractor shall, in addition, be entitled to such compensation as the Engineer-in-Charge may consider reasonable in respect of salaries and/or wages paid by the contractor to his employees and labour at site, remaining idle during the period of suspension, adding thereto 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within fifteen days of the expiry of the period of 30 days.
- (iii) If the works or part thereof is suspended on the orders of the Engineer-in-Charge for more than three months at a time, except when suspension is ordered for reasons (a) in sub-para (i) above, the contractor may after receipt of such order serve a written notice on the Engineer-in-Charge requiring permission within fifteen days from receipt by the Engineer-in-charge of the said notice, to proceed with the work or part thereof in regard to which progress has been suspended and if such permission is not granted within that time, the contractor, if he intends to treat the suspension, where it affects only a part of the works as an omission of such part by AAI or where it affects whole of the works, as an abandonment of the works by AAI, shall within ten days of expiry of such period of 15 days give notice in writing of his intention to the Engineer-in-Charge. In the event of the contractor treating the suspension as an abandonment of the contract by AAI, he shall have no claim to payment of any compensations on account of any profit or advantage which he might have derived from the execution of the work in full but which he could not derive in consequence of the abandonment. He shall, however, be entitled to such compensation, as the Engineer-in-Charge may consider reasonable, in respect of salaries and/or wages paid by him to his employees and labour at site, remaining idle in consequence adding to the total thereof 2% to cover indirect expenses of the contractor provided the contractor submits his claim supported by details to the Engineer-in-Charge within 30 days of the expiry of the period of 3 months.

Provided, further, that the contractor shall not be entitled to claim any compensation from AAI for the loss suffered by him on account of delay by AAI in the supply of materials in schedule 'B' where such delay is covered by difficulties relating to the supply of wagons, force majeure including non-allotment of such materials by controlling authorities, acts of God, acts of enemies of the state/country or any reasonable cause beyond the control of the AAI.

CLAUSE 16

Action in case Work not done as per Specifications

All works under or in course of execution or executed in pursuance of the contract, shall at all times be open and accessible to the inspection and supervision of the Engineer-in-Charge, his authorized subordinates in charge of the work and all the superior officers, officer of the Quality Assurance Unit of the Department or any organization engaged by the Department of Quality Assurance and of the Chief technical Examiner's Office, and the contractor shall, at all times, during the usual working hours and at all other times at which reasonable notice of the visit of such officers has been given to the contractor, either himself be present to receive orders and instructions or have a



responsible agent duly accredited in writing, present for that purpose. Orders given to the Contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

If it shall appear to the Engineer-in -charge or his authorized subordinates in charge of the work or to the Executive Director-In-charge or his subordinate officers or the officers of the organization engaged by the Department for quality Assurance or to the Chief Technical Examiner or his subordinate officers, that any work has been executed with unsound, imperfect, or unskillful workmanship, or with materials or articles provided by him for the execution of the work which are unsound or of a quality inferior to that contracted or otherwise not in accordance with the contract, the contractor shall, on demand in writing which shall be made within twelve months (~~six months in the case of work costing Rs.10 lac and below except road work~~) of the completion of the work from the Engineer-in-Charge specifying the work, materials or articles complained of notwithstanding that the same may have been passed, certified and paid for forthwith rectify, or remove and reconstruct the work so specified in whole or in part, as the case may require or as the case may be, remove the materials or articles so specified and provide other proper and suitable materials or articles at his own charge and cost. In the event of the failing to do so within a period specified by the Engineer-in-Charge in his demand aforesaid, then the contractor shall be liable to pay compensation at the same rate as under clause 2 of the contract (for non-completion of the work in time) for this default.

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

CLAUSE 17

**Contractor
Liable for
Damages,
defects
during
maintenance
period**

If the contractor or his working people or servants shall break, deface, injure or destroy any part of building in which they may be working, or any building, road, road kerb fence, enclosure, water pipe, cables, drains, electric or telephone post or wires, trees, grass or grassland, or cultivated ground contiguous to the premises on which the work or any part is being executed, or if any damage shall happen to the work while in progress, from any cause whatever or if any defect, shrinkage or other faults appear in the work within twelve months (~~six months in the case of work costing Rs. Ten lacs and below except road work~~) after a certificate final or otherwise of its completion shall have been given by the Engineer-in-charge as aforesaid arising out of defect or improper materials or workmanship the contractor shall upon receipt of a notice in writing on that behalf make the same good at his own expense or in default the Engineer-in-charge cause the same to be made good by other workmen and deduct the expense from any sums that may be due or at any time thereafter may become due to the contractor, or from his security deposit or the proceeds of sale thereof or of a sufficient portion thereof. The security deposit of the contractor shall not be refunded before the expiry of twelve months (~~six months in the case of work costing Rs. Ten lacs and below except road work~~) after the issue of the certificate final or otherwise, of completion of work, or till the final bill has been prepared and passed whichever is later. Provided



that in the case of road work, if in the opinion of the Engineer-in-charge half of the security deposit is sufficient, to meet all liabilities of the contractor under this contract, half of the security deposit will be refundable after six months and the remaining half after twelve months of the issue of the said certificate of completion or till the final bill has been prepared and passed whichever is later.

In case of Maintenance and Operation works of E&M services, the security deposit deducted from contractors shall be refunded within one month from the date of final payment or within one month from the date of completion of the maintenance contract whichever is earlier.

CLAUSE 18

Contractor to Supply Tools & Plants etc.

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

CLAUSE 18 A

Recovery of Compensation paid to Workmen

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

CLAUSE 18 B

Ensuring Payment and Amenities to Workers if Contractor fails

In every case in which by virtue of the provisions of the Contract Labour (Regulation and Abolition) act 1970, and the Contract Labour (Regulation and Abolition) Central Rules, 1971, AAI is obliged to pay any amounts of wages to a workman employed by the contractor in execution of the works, or to incur any expenditure in providing welfare and health amenities required to be provided under the above said Act and the rules under Clause 19H or under the AAI Contractor's Labour Regulations or under the Rules framed by AAI from time to time for the protection of health and



sanitary arrangements for workers employed by AAI Contractors, AAI will recover from the contractor the amount of wages so paid or the amount of expenditure so incurred and without prejudice to the rights of the AAI under sub section (2) of Section 20, sub section (4) of Section 21, of the Contract Labour (Regulation and Abolition) Act, 1970, AAI shall be at liberty to recover such amount or any part thereof by deducting it from the security deposit or from any sum due by AAI to the contractor whether under this contract or otherwise AAI shall not be bound to contest any claim made against it under sub section (1) of Section 20, sub section (4) of Section 21, of the said Act, except on the written request of the contractor and upon his giving to the AAI full security for all costs for which AAI might become liable in contesting such claim.

CLAUSE 19

Labour laws to be complied by the Contractor

The contractor shall obtain a valid license under the contract labour (R&A) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, before the commencement of the work, and continue to have a valid license until the completion of the work. The contractor shall also abide by the provisions of the Child Labour (Prohibition and Regulation) Act, 1986.

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

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

CLAUSE 19 A

No labour below the age of Eighteen years shall be employed on the work.

CLAUSE 19 B

Payment of wages

Payment of wages:

- (i) The contractor shall pay to labour employed by him either directly or through sub contractors, wages not less than fair wages as defined in the AAI Contractor's Labour Regulation or as per the provisions of the Contract Labour (Regulation and Abolition) act, 1970 and the contract labour (Regulation and Abolition) Central Rules, 1971 wherever applicable.
- (ii) The contractor shall, notwithstanding the provisions of any contract to the contrary, cause to be paid fair wage to labour indirectly engaged on the work, including any labour engaged by his sub contractors in connection with the said work, as if the labour had been immediately employed by him.
- (iii) In respect of all labour directly or indirectly employed in the works for performance of the contractor's part of this contract, the contractor shall comply with or cause to be complied with the Airports Authority of India contractor's Labour Regulations made by AAI from time to time in regard to payment of wages, wage period, deductions from wages recovery of wages not paid and deductions unauthorisedly made, maintenance of wage books or wage slips, publication of scale of wages and other terms of employment, inspection and submission of periodical returns and all other matters of the like nature or as per the provisions of the Contract Labour (Regulation and Abolition) Act, 1970 and the Contract Labour (Regulation and Abolition) Central Rules, 1971, wherever applicable.



- (iv) (a) The Engineer-in-charge concerned shall have the right to deduct from the moneys due to the contractor or any sum required or estimated to be required for making good the loss suffered by a worker or workers by reason of non fulfillment of the conditions of the contract for the benefit of the workers, non payment of wages or of deductions made from his or their wages which are not justified by their terms of the contract or non observance of the Regulations.
- (b) Under the provision of Minimum Wages (Central) Rule 1950 the contractor is bound to allow to the labours directly or indirectly employed in the works one day rest for 6 days continuous work and pay wages at the same rate as for duty. In the event of default, the Engineer-in-charge shall have the right to deduct the sum or sums not paid on account of wages for weekly holidays to nay labours and pay the same to the persons entitled thereto from any money due to the contractor by the Engineer-in-charge concerned.

In the case of Union Territory of Delhi, however, as the all inclusive minimum daily wages fixed under Notification of the Delhi Administration No. F.12(162)MWO/DAB/43884-91, dated 31.12.1979 as amended from time to time are inclusive of wages for the weekly day of rest the question of extra payment for weekly holiday would not arise.
- (v) The contractor shall comply with the provisions of the Payment of wages Act, 1936, Minimum Wages Act, 1948, Employees Liability Act, 1938, Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947, Maternity Benefits Act, 1961, and the Contractor's Labour (Regulation and Abolition) Act 1970, or the modifications thereof or any other laws relating thereto and the rule made thereunder from time to time.
- (vi) The contractor shall indemnify and keep indemnified Authority against payments to be made under and for the observance of the laws aforesaid and the AAI Contractor's Labour Regulations with prejudice to his right to claim indemnity from his sub contractors.
- (vii) The laws aforesaid shall be deemed to be a part of this contract and any breach thereof shall be deemed to be a breach of this contract.
- (viii) Whatever is the minimum wage for the time being, or if the wage payable is higher than such wage, such wage shall be paid by the contractor to the workmen directly without the intervention of Jamadar and that Jamadar shall not be entitled to deduct or recover any amount from the minimum wage payable to the workmen as and by way of commission or otherwise.
- (ix) The contractor shall ensure that no amount by way of commission or otherwise is deducted or recovered by the Jamadar from the wage of workmen.

CLAUSE 19 C

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



CLAUSE 19 D

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

- (1) the number of labourers employed by him on the work,
- (2) their working hours,
- (3) the wages paid to him,
- (4) the accidents that occurred during the said fortnight showing the circumstances under which they happened and the extent of damage and injury caused by them, and
- (5) the number of female workers who have been allowed maternity benefit according to Clause 19F and the amount paid to them

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

CLAUSE 19 E

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

CLAUSE 19 F

Leave and pay during leave shall be regulated as follows:

1. Leave:

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

2. Pay:

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

3. Conditions for the grant of Maternity Leave:

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



4. The contractor shall maintain a register of Maternity (Benefit) in the Prescribed Form as shown in appendix – I and II, and the same shall be kept at the place of work.

CLAUSE 19 G

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

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

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

CLAUSE 19 H

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

- (i) (a) The minimum height of each hut at the eaves level shall be 2.10m (7ft.) and the floor area to be provided will be at the rate of 2.7 sq.m. (30 sq.ft.) for each member of the worker’s family staying with the labourer.
- (b) The contractor shall in addition construct suitable cooking places having a minimum area of 1.80m x 1.50m (6’ x 5’) adjacent to the hut for each family.



- (c) The contractor(s) shall also construct temporary latrines and urinals for the use of the labourers each on the scale of not less than four per each one hundred of the total strength, separate latrines and urinals being provided for women.
- (d) The contractor (s) shall construct sufficient number of bathing and washing places one unit for every 25 persons residing in the camp. These bathing and washing places shall be suitably screened.
- (ii) (a) All the huts shall have walls of sun-dried or burnt-bricks laid in mud mortar or other suitable local materials as may be approved by the Engineer-in-Charge in case of sun-dried bricks, the walls should be plastered with mud gobi on both sides. The floor may be kutcha but plastered with mud gobi and shall be at least 15 cm (6") above the surrounding ground. The roofs shall be laid with the thatch or any other materials as may be approved by the Engineer-in-Charge and the contractor shall ensure that throughout the period of their occupation, the roofs remain water – tight.
- (b) The contractor (s) shall provide each hut with proper ventilation.
- (c) All doors, windows and ventilators shall be provided with suitable leaves for security purposes.
- (d) There shall be kept an open space of at least 7.2 m (8 yards) between the rows of huts which may be reduced to 6m (20 ft.) according to the availability of site with the approval of the Engineer-in-Charge. Back to back construction will be allowed.
- (iii) **Water Supply** – The contractor (s) shall provided adequate supply of water for the use of labourers. The provisions shall not be less than two gallons of pure and wholesome water per head per day for drinking purposes and three gallons of clean water per head per day for bathing and washing purposes. Where piped water supply is available supply shall be at stand posts and where the supply is from wells or river, tanks which may be of metal or masonry, shall be provide. The contractor (s) shall also at his / their own cost make arrangements for laying pipe lines for water supply to his / their labour camp from the existing mains wherever available and shall pay all fees and charges therefor.
- (iv) The site selected for the camp shall be high ground, removed from jungle.
- (v) **Disposal of Excreta:** The contractor (s) shall make necessary arrangement for the disposal of excreta from the latrines by trenching or incineration which shall be according to the requirements laid down by the Local Health Authorities. If trenching or incineration is not allowed, the contractor (s) shall make arrangements for the removal of the excreta through the Municipal Committee / authority and inform it about the number of labourers employed so that arrangements may be made by such Committee / authority for the removal of excreta. All charges on this account shall be borne by the contractor and paid direct by him to the Municipality / authority. The contractor shall provide one sweeper for every eight seats in case of dry system.
- (vi) **Drainage** – The contractor (s) shall provide efficient arrangements for draining away sullage water so as to keep the camp neat and tidy.
- (vii) The contractor (s) shall make necessary arrangements for keeping the camp area sufficiently lighted to avoid accidents to the workers.



(viii) **Sanitation:** The contractor(s) shall make arrangements for conservancy and sanitation in the labour camps according to the rules of the Local Public Health and Medical Authorities.

CLAUSE 19 I

The Engineer-in-Charge may require the contractor to dismiss or remove from the site of the work any person or persons in the contractors' employ upon the work who may be incompetent or misconduct himself and the contractor shall forthwith comply with such requirements.

CLAUSE 19 J

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

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

CLAUSE 19 K

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

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

CLAUSE 20

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

CLAUSE 20(A)

The Contractor shall comply with all the provisions of the Employees Provident Fund & Misc. Provisions Act, 1952, and ESI Act, 1948, amended from time to time and rules framed thereunder wherever applicable. Some of the provisions are given below:

**Employment
of skilled /
semi-skilled
workers**

**Minimum Wages
Act to be
Complied with**



**Employees
Provident Fund
& Miscellaneous
Provident Act
1952 and State
Insurance (ESI)
Act, 1948.**

- a) The contractor shall intimate his PF account code no. allotted by regional PF commissioner and ESI registration no. allotted by ESI Corporation after award of work and shall continue to have valid PF account code no. and ESI registration no. till actual completion of the contract.
- b) The contractor shall provide a list of contract Workers engaged for contract work along with their PF Account No. & ESI Registration No.
- c) The contractor by 20th of every month shall provide a monthly statement showing recoveries of contribution and proof of remittance of provident fund contribution to RPFC and ESI contributions to ESI Corporation in respect of Workers engaged in contract work.
- d) The contractor shall provide copies of PF & ESI challans of monthly contributions in respect of contract workers engaged for contract work on month to month basis.

AAI reserves the right to **withhold minimum 3%** of the total amount of work done during the period considered from the running account payments, if PF / ESI contributions are not paid by the contractor and proof to that effect have not been produced regularly on due dates.

CLAUSE 20(B)

ESI & EPF amount paid to the statutory authorities by the contractor shall be reimbursed on actual basis on submission of documentary evidence.

CLAUSE 21

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

**Work not to
be sublet.
Action in
case of
insolvency**

CLAUSE 22

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

CLAUSE 23

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

**Changes in
firm's
Constitution to
be intimated**

CLAUSE 24

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

Dispute Resolution Mechanism and Arbitration

CLAUSE 25

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

Through Dispute Resolution Committee : Any dispute as stated above shall be referred in the first place to the Dispute Resolution Committee (DRC) appointed by the Member(Planning), Airports Authority of India.

- (i) If a dispute of any kind, whatsoever, arises between the procuring entity and contractor in connection with or arising out of the contract or the execution of the works, whether during the execution of the works or after their completion and whether before or after the repudiation or termination of the contract, including any disagreement by either party with any action, opinion, instruction, determination, certificate or valuation of the Engineer, the matter in dispute shall in the first place, be referred to the Dispute Resolution Committee (DRC) appointed by Member (Plg.),AAI.
- (ii) DRC, thus constitute may act as 'conciliator and will be guided by principles of 'conciliation' as included in part III of Arbitration & Conciliation Act 1996. DRC should take into consideration, rights and obligations of parties, usage to trade concerned and circumstances surrounding the dispute(s), including any previous business practices between parties. Efforts of DRC should be to come to an amicable settlement of outstanding disputes. If parties agree, a written settlement will be drawn up and signed by the parties. DRC will authenticate the settlement agreement and furnish a copy to each party.
- (iii) DRC will give its report within 45 days of its constitution.
- (iv) It is also a term of contract that fees and other expense if payable to DRC shall be paid equally by both the parties i.e. AAI and Contractor.
It is also a term of contract that fees and other expense if payable to DRC shall be paid equally by both the parties i.e. AAI and Contractor.
Unless the contract has already been repudiated or terminated, the contractor shall, in every case, continue to proceed with the work with all due diligence.
It is also a term of contract that If the contractor does not make any demand for Dispute Resolution Committee in respect of any claim in writing within 90 (Ninety) days of receiving the intimation from the AAI that the bill is ready for payment, the claim of contractor(s) will be deemed to have been waved and absolutely barred and the AAI shall be discharged and released of all liabilities under the contract in respect of these claims.
- (v) **Adjudication through Arbitration:-** Except where the decision has become final, binding and conclusive in terms of Sub Para (i) above, disputes or differences shall be referred for adjudication through arbitration by a sole arbitrator appointed by the Member (Planning), AAI. If the arbitrator so appointed is unable or unwilling to act or resigns his appointment or vacates his office due to any reason whatsoever, another sole arbitrator shall be appointed in the manner aforesaid. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor.
It is also a term of contract that If the contractor does not make any demand for appointment of Arbitrator in respect of any claim in writing within 120 (One hundred Twenty) days of receiving the decision / award from Dispute Resolution Committee, the claim of contractor(s) will be deemed to have been waved and absolutely barred and the AAI shall be discharged and released of all liabilities under the contract in respect of these claims.
It is term of this contract that the party invoking arbitration shall give a list of disputes with amounts claimed in respect of each such disputes along with the notice for appointment of arbitrator and giving reference to the rejection of their claims by the Dispute Resolution Committee.



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

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

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

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

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

CLAUSE 26

Contractor to indemnify AAI against Patent Rights

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

CLAUSE 27

Lump sum Provisions in Tender

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

CLAUSE 28

Action where no specifications are specified

In the case of any class of work for which there is no such specifications as referred to in Clause 11, such work shall be carried out in accordance with the Bureau of Indian Standards Specifications. In case there are no such specifications in Bureau of Indian Standards, the work shall be carried out as per manufacturers' specifications.



With-holding and lien in respect of sums due from contractor

In case there are no such specifications as required above, the work shall be carried out in all respects in accordance with the instructions and requirements of the Engineer-in-Charge.

CLAUSE 29

(i) Whenever any claims for payment of a sum of money arises out of or under the contract or against the contractor, the Engineer-in-Charge or the AAI shall be entitled to withhold and also have a lien to retain such sum or sums in whole or in part from the security, if any deposited by the contractor and for the purpose aforesaid, the Engineer-in-Charge or the AAI shall be entitled to withhold the security deposit if any, furnished as the case may be and also have a lien over the same pending finalization or adjudication of any such claim. In the even of the security being insufficient to cover the claimed amount or amounts or if so security has been taken from the contractor, the Engineer-in-Charge or the AAI shall be entitled to withhold and have lien to retain to the extent of such claimed amount or amounts referred to above from any sum or sums found payable or which may at any time thereafter become payable to the contractor under the same contract or any other contract with the Engineer-in Charge of the AAI or any contracting person through the Engineer-in-Charge pending finalization of adjudication of any such claim.

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

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

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



Lien in respect of claims in other Contracts

CLAUSE 29A

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

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

CLAUSE 30

Employment of coal mining or controlled area labour not permissible

The contractor shall not employ coal mining or controlled area labour falling under any category whatsoever or in connection with the work or recruit labour from area within a radius of 32 km (20 miles) of the controlled area. Subject as above the contractor shall employ imported labour only i.e., deposit imported labour or labour imported by contractors from area, from which import is permitted.

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

The contractor shall immediately remove any labourer who may be pointed out by the Engineer-in-Charge as being a coal mining or controlled area labourer. Failure to do so shall render the contractor liable to pay to AAI a sum calculated at the rate of Rs.10/- per day per labourer. The certificate of the Engineer-in –Charge about the number of coal mining or controlled area labourer and the number of days for which they worked shall be final and binding upon all parties to this contract.

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

Explanation :- Controlled area mean the following areas:

Districts of Dhanbad, Hazaribagh, Jamtara- Sub-Division under Santhal Pargana Commissioner, District of Bankuara, Birbhum, Burdwan, District of Bilaspur. Any other area which may be declared a Controlled Area by or with the approval of the Central Government.

CLAUSE 31

Unfiltered water supply

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

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



Departmental water supply, if available

CLAUSE 31A

Water if available may be supplied to the contractor by the department subject to the following conditions:-

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

Alternate water arrangements

CLAUSE 32

- (i) Where there is no piped water supply arrangement and the water is taken by the contractor from the wells or hand pump constructed by the AAI, no charge shall be recovered from the contractor or that account. The contractor shall, however, draw water at such hours of the day that it does not interfere with the normal use for which the hand pumps and well are intended. He will also be responsible for all damage and abnormal repairs arising out of his use, the cost of which shall be recoverable from him. The Engineer-in-Charge shall be the final authority to determine the cost recoverable from the contractor on this account and his decision shall be binding on the contractor.
- (ii) The contractor shall be allowed to construct temporary wells in AAI land for taking water for construction purposes only after he has got permission of the Engineer-in-Charge in writing. No charges shall be recovered from the contractor on this account but the contractor shall be required to provide necessary safety arrangements to avoid any accidents or damage to adjacent buildings, roads and service lines. He shall be responsible for any accidents or damage caused due to construction and subsequent maintenance of the wells and shall restore the ground to its original condition after the wells are dismantled on completion of the work.

Return of Surplus materials

CLAUSE 33

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



Hire of plant & Machinery

CLAUSE 34

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



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



of the work for which it was issued. The Engineer-in-charge shall be the sole judge to determine the liability of the contractor and its extent in this regard and his decision shall be final and binding on the contractor.

(xiii) The contractor will be exempted from levy of any hire charges for the number of days he is called upon in writing by the Engineer-in-charge to suspend execution of the work, provided AAI's plant and machinery in question have, in fact, remained idle with the contractor because of the suspension.

(xiv) In the event of the contractor not requiring any item of plant and machinery issued by AAI though not stipulated for issue in Schedule 'C' any time after taking delivery at the place of issue, he may return it after two days written notice or at any time without notice if he agrees to pay hire charges for two additional days without, in any way, affecting the right of the Engineer-in-charge to use the said plant and machinery during the said period of two days as he likes including hiring out to a third party.

CLAUSE 35

Condition relating to use of asphaltic materials

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

CLAUSE 36

Employment of Technical Staff and employees

Contractors Superintendence, Supervision, Technical staff & Employees

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

The Contractor shall immediately after receiving letter of acceptance of the tender and before commencement of the work, intimate in writing to the Engineer-in-Charge, the name (s), qualifications experience, age, address (s) and other particulars along with certificates, of the principal technical representative to be charge of the work and other technical representative (s) who will be supervising the work. Minimum requirement of such technical representative (s) and their qualifications and experience shall not be lower than specified in schedule 'F". The Engineer-in-Charge shall within 3 days



of receipt of such communication intimate in writing his approval or otherwise of such a representative (s) to the contractor. Any such approval may at any time be withdrawn and in case of such withdrawal, the contractor shall appoint another such representative (s) according to the provisions of this clause. Decision of the tender accepting authority shall be final and binding on the contractor in this respect. Such a principal technical representative and other technical representative (s) shall be appointed by the contractor soon after receipt of the approval from Engineer-in-charge and shall be available at site before start of work.

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

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

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

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



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

CLAUSE 37 Refer Sl No. 29 on page no. NIT-11

Levy/Taxes payable by Contractor

- (i) Sales Tax/VAT/WCT (except Service Tax) or any other tax on materials in respect of this contract shall be payable by the contractor and AAI shall not entertain any claim whatsoever in this respect. However, in respect of service tax, same shall be paid by the contractor to the concerned department on demand and it will be reimbursed to him by the Engineer-in-charge after satisfying that it has been actually and genuinely paid by the contractor.
- (ii) (a) The contractor shall at his own expense, provide all materials required for the works other than those which are to be supplied by AAI. The contractor shall deposit royalty and obtain necessary permit for collection of stone, sand red bajri, kankar etc. from the local authority in the matter and will abide by the notification issued by Central Govt. / State Government / Local State Authorities as applicable from time to time in this regard. The contractor is also bound to allow deduction from his bills any difference in statutory taxes / royalty and penalty proposed by Local State Authorities to AAI till finalization of settlement **of all demands in this regard by Central / State Govt.** Deleted
- (b) This will also be applicable to forest produce.
- (iii) If pursuant to or under any law, notification or order any royalty, cess or the like becomes payable by the AAI and does not any time become payable by the contractor to the State Government. Local authorities in respect of any material used by the contractor in the works then in such a case, it shall be lawful to the AAI and it will have the right and be entitled to recover the amount paid in the circumstances as aforesaid from dues of the contractor.

CLAUSE 38

Conditions for reimbursement of levy / taxes if levied after receipt of tenders.

- (i) All tendered rates shall be inclusive of all taxes and levies payable under respective statutes. However, pursuant to the Constitution (46th Amendment) Act, 1982, if any further tax or levy is imposed by Statute, after the last stipulated date for the receipt of tender including extensions if any and the contractor thereupon necessarily and properly pays such taxes / levies, the contractor shall be reimbursed the amount so paid, provided such payments, if any, is not, in the opinion of the Engineer-in-charge (whose decision shall be final and binding on the contractor) attributable to delay in execution of work within the control of the contractor.
- (ii) The contractor shall keep necessary books of accounts and other documents for the purpose of this condition as may be necessary and shall allow inspection of the same by a duly authorised representative of AAI or the Engineer-in-Charge and further shall furnish such other information / document as the Engineer-in-Charge may require from time to time.
- (iii) The contractor shall, within a period of 30 days of the imposition of any such further tax or levy, pursuant to the Constitution (Forty Sixth Amendment) Act, 1982, give a written notice thereof to the Engineer-in-Charge that the same is given pursuant to this condition together with all necessary information relating thereto.



Termination of Contract on death of contractor

CLAUSE 39

Without prejudice to any of the rights or remedies under this contract, if the contractor dies, the Engineer-in-charge on behalf of the AAI shall have the option of terminating the contract without compensation to the contractor.

CLAUSE 40

If relative working in AAI then the contractor not allowed to tender

The contractor shall not be permitted to tender for works in AAI wherein his near relative is posted as an Officer responsible for award and execution of work. He shall also intimate the names of persons who are working with him in any capacity or / are subsequently employed by him and who are near relatives to any officer of AAI. Any breach of this condition by the Contractor would render him, the contract liable to be rejected at any stage.

NOTE: By the term “near relatives” is meant wife, husband, parents and grand parents, children and grand children, brothers and sisters, uncles, aunts and cousins and their corresponding in-laws.

CLAUSE 41

No any officer in Deptt of Engineering to work as Contractor within one year of retirement

No engineer or any officer employed in engineering or administrative duties in an engineering department of AAI shall work as a contractor or employee of a contractor for a period of one year after his retirement from AAI service without the previous permission of AAI in writing. This contract is liable to be cancelled if either the contractor or any of his employees is found at any time to be such a person who had not obtained the permission of AAI as aforesaid, before submission of the tender or engagement in the contractor’s service, as the case may be.

CLAUSE 42

Return of material and recovery for excess material issued.

- (i) After completion of the work and also at any intermediate stage in the event of non-reconciliation of materials issued, consumed and in balance – (see Clause 10), Theoretical quantity of materials issued by the AAI for use in the work shall be calculated on the basis and method given hereunder;
- (a) Quantity of cement & bitumen shall be calculated on the basis of quantity of cement & bitumen required for different items of work as shown in the Schedule of Rates mentioned in Schedule ‘F’. In case any item is executed for which standard co-efficients for the consumption of cement or bitumen are not available in the above mentioned schedule / statement or cannot be derived from the same shall be calculated on the basis of standard formula to be laid down by the Engineer-in-Charge.
~~Deleted~~
- (b) Theoretical quantity of steel reinforcement or structural steel sections shall be taken as the quantity required as per design or as authorised by Engineer-in-Charge, including authorised lappages, chairs etc. plus 3% wastage due to cutting into pieces, such theoretical quantity being determined and compared with the actual issues each diameter-wise, section wise and category wise separately.
- (c) Theoretical quantity of G.I. & C.I. or other pipes, conduits, wires and cables pig lead and G.I. / M.S. sheets shall be taken as quantity actually required and measures plus 5% for wastage due to cutting into pieces (except in the case of



- G.I./M.S. sheets it shall be 10%), such determination & comparison being made diameter wise & categoriwise.
- (d) For any other material as per actual requirements.
 - (ii) Over the theoretical quantities of materials so computed a variation shall be allowed as specified in Schedule 'F'. The difference in the net quantities of material actually issued to the contractor and the theoretical quantities including such authorised variation, if not returned by the contractor or if not fully reconciled to the satisfaction of the Engineer-in-Charge within fifteen days of the issue of written notice by the Engineer-in-Charge to this effect shall be recovered at the rates specified in Schedule 'F', without prejudice to the provision of the relevant conditions regarding return of materials governing the contract. Decision of Engineer-in-Charge in regard to theoretical quantities of materials, which should have been actually used as per the Annexure of the standard schedule of rates and recovery at rates specified in Schedule 'F' shall be final and binding on the contractor. Deleted
- For non scheduled items, the decision of the Engineer – in - charge regarding theoretical quantities of materials which should have been actually used, shall be final and binding on the contractor.
- (iii) The said action under this clause is without prejudice to the right of the AAI to taken action against the contractor under any other conditions of contract for not doing the work according to the prescribed specifications.

CLAUSE 43

Compensation during warlike situations

The work (whether fully constructed or not) and all materials, machines, tools and plants scaffolding, temporary buildings and other things connected therewith shall be at the risk of the contractor until the work has been delivered to the Engineer-in-Charge and a certificate from him to that effect obtained. In the event of the work or any materials properly brought to the site for incorporation in the work being damaged or destroyed in consequence of hostilities or warlike operation, the contractor shall when ordered (in writing) by the Engineer-in-Charge to remove any debris from the site, collect and properly stack or remove in store all serviceable materials salvaged from the damaged work and shall be paid at the contract rates in accordance with the provision of this agreement for the work of clearing the site of debris, stacking or removal of serviceable material and for reconstruction of all works ordered by the Engineer-in-Charge, such payments being in addition to compensation upto the value of the work original executed before being damaged or destroyed and not paid for. In case of works damaged or destroyed but not already measured and paid for, the compensation shall be assessed by the Engineer-in-Charge upto **Rs.5,000/-** and by the Executive Director Engg. / General Manager Engg. concerned for a higher amount. The contractor shall be paid for the damages / destruction suffered and for restoring the material at the rate based on analysis of rates tendered for in accordance with the provision of the contract. The certificate of the Engineer-in-Charge regarding the quality and quantity of materials and the purpose for which they were collected shall be final and binding on all parties to this contract. Provided always that no compensation shall be payable for any loss in consequence of hostilities or warlike operation (a) unless the contractor had taken all such precautions against air raid as are deemed necessary by the A.R.P. Officers or the Engineer-in-Charge (b) for any material etc. not on the site of the work or for any tools plant, machinery, scaffolding, temporary building and other things not intended for the work. In the event of the contractor having to carry out reconstruction as aforesaid, he shall be allowed such extension of time for its completion as is considered reasonable by the Engineer – in - charge.



Apprentices Act provisions to be complied with

CLAUSE 44

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

CLAUSE 45

Release of security deposit after labour clearance

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

CLAUSE-46

Contractor's Liability and Insurance of Works

- (i) From commencement to completion of the Works, the Contractor shall take full responsibility for the case thereof and for taking precautions to prevent loss or damage and to minimize loss or damage to the greatest extent possible and shall be liable for any damage or loss that may happen to the Works or any part thereof and all AA I's T & P from any cause whatsoever (save and except the Excepted Risks) and shall at his own cost repair and make good the same so that at completion, the Works and all AAI's T & P shall be in good order and condition and in conformity in every respect with the requirements of the Contract and instructions of the Engineer-in-Charge.
- (ii) In the event of any loss or damage to the Works or any Part thereof or to any T & P, to any material or articles at the Site from any of the Excepted Risks the following provisions shall have effect:
 - (a) The Contractor shall, as may be directed in writing by the Engineer-in-Charge, remove from the Site any debris and so much of the works as shall have been damaged, taking to AAI's store such AAI's T & P, articles and/or materials as may be directed;
 - (b) The contractor shall, as may be directed in writing by the Engineer-in-Charge, proceed with the erection and completion of the Works under and in accordance with the provisions and Conditions of the Contract; and
 - (iii) Provided always that the Contractor shall not be entitled to payment under the above provisions in respect of so much loss or damage as has been occasioned by any failure on his part to perform his obligation under the Contract or not taking precautions to prevent loss or damage or minimize the amount of such loss or damage.
 - (iv) Without limiting its obligations and responsibilities under other clauses of General Conditions of Contracts ,the contractor at his own cost shall insure ,in the joint name of AAI and the contractor, against all losses or damages from whatever cause, arising (other than the accepted risks)for which he is responsible under the terms of the contract and in such manner that the AAI and the contractor are covered during the period of construction of works and any loss or damage occasioned by the contractor in the course of any operation carried out by them for the purpose of complying with its obligations of defects liability clause hereof;
- a) All works including temporary works to their full value executed from time to time.



- b) The construction materials and equipments to their full value brought on to the site by the contractor.
- (v) The Contractor shall indemnify and keep indemnified AAI against all losses and claims for injuries or damage to any persons or any property whatsoever which may arise out of or in consequence of the construction and maintenance of Works and against all claims, demands proceedings, damage costs, charges and expenses whatsoever in respect of or in relation thereto.
- (vi) Before commencing execution of the work, the Contractor shall, without in any way limiting his obligations and responsibilities under this condition, insure at his own cost against any damage, loss or injury which may occur to any AAI property, or to any person for at least the minimum amount of Rs. 1.00 lakh with unlimited number of occurrences (including any employee of AAI) by or arising out of carrying out of the Contract.
- (vii) The contractor shall at all times indemnify AAI against all claims, damages or compensation under the provisions of Payment or Wages Act, 1936, Minimum Wages Act, 1948, Employer's Liability Act, 1938, the Workmen's Compensation Act, 1923, Industrial Disputes Act, 1947 and the Maternity Benefit Act, 1961 or any modifications thereof or any other law relating thereto and rules made there under from time to time or as a consequence of any accident or injury to any workman or other persons in or about the Works, whether in the employment of the Contractor or not, his agents or servants, and also against all costs, charges and expenses of any suit, action or proceedings arising out of such accident or injury and against all sum or sums which may with the consent of the Contractor be paid to compromise or compound any claim. Without limiting his obligations and liabilities as above provided, the Contractor shall insure against all claims, damages or compensation payable under the Workmen's Compensation Act, 1923 or any modification thereof or any other law relating thereto.
- (viii) All insurance mentioned above shall be effected with any subsidiary of the General Insurance Company of India or by a company approved by the Insurance Regulatory Authority of India.
- (ix) The aforesaid insurance policy / policies shall provide that they shall not be cancelled till the Engineer-in-Charge has agreed to their cancellation in writing.
- (x) The Contractor shall prove to the Engineer-in-Charge from time to time that he has taken out all the insurance policies referred to above and has paid the necessary premiums for keeping the policies alive till expiry of the Defects Liability Period. A self-certified copy of such policies are required to be submitted to the Engineer-in-charge.
- (xi) The Contractor shall ensure that similar insurance policies are taken out by his subcontractors (if any) and shall be responsible for any claims or losses to AAI resulting from their failure to obtain adequate insurance protection in connection thereof. The contractor shall produce or cause to be produced by his subcontractor (if any) as the case may be, the relevant policy or policies and premiums receipts as and when required by the Engineer-in-Charge. A self-certified copy of such policies are required to be submitted to the Engineer-in-charge.
- (xii) If the Contractor and/or his subcontractor (if any) shall fail to effect and keep in force the insurance referred to above or any other insurance which he/they may be required to effect under the terms of the Contract then and in any such case AAI may, without being bound to, effect and keep in force any such insurance and pay such premium or premiums as may be necessary for that purpose and from time to time deduct the amount so paid by AAI from any moneys due or which may become due to the Contractor or recover the same as a debt due from the Contractor.



Clause 47

Carrying out part work at risk & cost of contractor

If contractor:

- a. At any time makes default during currency of work or does not execute any part of the work with due diligence and continues to do so even after a notice in writing of 7 days in this respect from the Engineer-in-Charge; or
- b. Commits default in complying with any of the terms and conditions of the contract and does not remedy it or takes effective steps to remedy it within 7 days even after a notice in writing is given in that behalf by the Engineer-in-Charge; or

Fails to complete the work(s) or items of work with individual dates of completion, on or before the date(s) so determined, and does not complete them within the period specified in the notice given in writing in that behalf by the Engineer-in-Charge. The Engineer-in-Charge without invoking action under clause 3 may, without prejudice to any other right or remedy against the contractor which have either accrued or accrue thereafter to Government, by a notice in writing to take the part work / part incomplete work of any item(s) out of his hands and shall have powers to:

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

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

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

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

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

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

AIRPORTS AUTHORITY OF INDIA

SAFETY CODE

1. Suitable Scaffolds should be provided for workmen for all works that cannot safely be done from the ground, or from solid construction except such short period work as can be done safely from ladders. When a ladder is used, an extra mazdoor shall be engaged for holding the ladder and if the ladder is used for carrying materials as well suitable footholds and hand-hold shall be provided on the ladder and the ladder shall be given an inclination not steeper than $\frac{1}{4}$ to 1 ($\frac{1}{4}$ horizontal and 1 vertical)
2. Scaffolding of staging more than 3.6m (12ft.) above the ground or floor, swung or suspended from an overhead support or erected with stationary support shall have a guard rail properly attached or bolted, braced and otherwise secured at least 90 cm. (3ft.) high above the floor or platform of such scaffolding on staging and extending along the entire length of the outside and ends there of with only such opening as may be necessary for the delivery of materials. Such scaffolding or staging shall be so fastened as to prevent it from swaying from the building or structure.
3. Working platforms, gangways and stairways should be so constructed that they should not sag unduly or unequally, and if the height of the platform or the gangway or the stairway is more than 3.6 m (12ft.) above ground level or floor level, they should be closely boarded, should have adequate width and should be suitably fastened as described in (2) above.
4. Every opening in the floor of a building or in a working platform shall be provided with suitable means to prevent the fall of person or materials by providing suitable fencing or railing whose minimum height shall be 90 cm.(3ft.)
5. Safe means of access shall be provided to all working platforms and other working places. Every ladder shall be securely fixed. No portable single ladder shall be over 9m. (30ft.) in length while the width between side rails in rung ladder shall in no case be less than 29 cm. (11 $\frac{1}{2}$ ") for ladder upto and including 3m. (10ft.) in length. For long ladders, this width should be increased at least $\frac{1}{4}$ " for each additional 30cm. (1 foot) of length. Uniform step spacing of not more than 30cm shall be kept. Adequate precautions shall be taken to prevent danger from electrical equipment. No materials on any of the site or work shall be so stacked or placed as to cause danger or inconvenience to any person or the public. The contractor shall provide all necessary fencing and lights to protect the public from accident and shall be bound to bear the expenses of defence of every suit, action or other proceedings at law that may be brought by any person for injury sustained owing to neglect of the above precautions and to pay any damages and cost which may be awarded in any such suit, action or proceedings to any such person on which may, with the consent of the contractor, be paid to compensate any claim by any such person.
6. Excavation and Trenching – All trenches 1.2 m. (4ft.) or more in depth, shall at all times be supplied with at least one ladder for each 30m. (100ft.) in length or fraction thereof, Ladder shall extend from bottom of the Trench to at least 90cm (3fts) above the surface of the ground. The side of the trenches which are 1.5 m. (5 ft.) or more in depth shall be stepped back to give suitable slope or securely held by timber bracing, so as to avoid the danger of sides collapsing. The excavated material shall not be placed within 1.5 m. (5 ft.) of the edges of the trench or half of the depth of the trench whichever is more. Cutting shall be done from top to bottom. Under no circumstances, undermining or undercutting shall be done.
7. Demolition – Before any demolition work is commenced and also during the progress of the work,
 - (i) All roads and open areas adjacent to the work site shall either be closed or suitably protected.
 - (ii) No electric cable or apparatus which is liable to be a source of danger or a cable or apparatus used by the operator shall remain electrically charged.



- (iii) All practical steps shall be taken to prevent danger to persons employed from risk of fire or explosion or flooding. No floor, roof or other part of the building shall be so overloaded with debris or materials as to render it unsafe.
- 8 All necessary personal safety equipment as considered adequate by the Engineer-in-Charge should be kept available for the use of the person employed on the site and maintained in a condition suitable for immediate use, and the contractor should take adequate steps to ensure proper use of equipment by those concerned. The following safety equipment shall invariably be provided.
- (i) Workers employed on mixing asphaltic materials, cement and lime mortars shall be provided with protective footwear and protective goggles.
 - (ii) Those engaged in white washing and mixing or stacking of cement bags or any material which is injurious to the eyes, shall be provided with protective goggles.
 - (iii) Those engaged in welding works shall be provided with welder's protective eye-shields.
 - (iv) Stone breaker shall be provided with protective goggles and protective clothing and seated at sufficiently safe intervals.
 - (v) When workers are employed in sewers and manholes, which are in active use, the contractors shall ensure that the manhole covers are opened and ventilated atleast for an hour before the workers are allowed to get into the manholes, and the manholes so opened shall be cordoned off with suitable railing and provided with warning signals or boards to prevent accident to the public. In addition, the contractor shall ensure that the following safety measures are adhered to:-
 - (a) Entry for workers into the line shall not be allowed except under supervision of the Sr.Superintendent (Engg.) or any other higher officer.
 - (b) Atleast 5 to 6 manholes upstream and downstream should be kept open for at least 2 to 3 hours before any man is allowed to enter into the manhole for working inside.
 - (c) Before entry, presence of toxic gases should be tested by inserting wet lead acetate paper which changes colour in the presence of such gases and gives indication of their presence.
 - (d) Presence of Oxygen should be verified by lowering a detector lamp into the manhole. In case, no Oxygen is found inside the sewer line, workers should be sent only with oxygen kit.
 - (e) Safety belt with rope should be provided to the workers. While working inside the manholes, such rope should be handled by two men standing outside to enable him to be pulled out during emergency.
 - (f) The area should be barricaded or condoned off by suitable means to avoid mishaps of any kind. Proper warning signs should be displayed for the safety of the public whenever cleaning works are undertaken during night or day.
 - (g) No smoking or open flames shall be allowed near the blocked manhole being cleaned
 - (h) The malba obtained on account of cleaning of blocked manholes and sewer lines should be immediately removed to avoid accidents on account of slippery nature of the malba.
 - (i) Workers should not be allowed to work inside the manhole continuously. He should be given rest intermittently. The Engineer-in-Charge may decide the time upto which a worker may be allowed to work continuously inside the manhole.
 - (j) Gas masks with Oxygen Cylinder should be kept at site for use in emergency.
 - (k) Air-blowers should be used for flow of fresh air through the manholes. Whenever called for, portable air blowers are recommended for ventilating the manholes. The Motors for these shall be vapour proof and of totally enclosed type. Non sparking gas engines also



could be used but they should be placed at least 2 metres away from the opening and on the leeward side protected from wind so that they will not be a source of friction on any inflammable gas that might be present.

- (l) The workers engaged for cleaning the manholes / sewers should be properly trained before allowing to work in the manhole.
 - (m) The workers shall be provided with Gumboots or non sparking shoes bump helmets and gloves non sparking tools safety lights and gas masks and portable air blowers (when necessary). They must be supplied with barrier cream for anointing the limbs before working inside the sewer lines.
 - (n) Workmen descending a manhole shall try each ladder stop or rung carefully before putting his full weight on it to guard against insecure fastening due to corrosion of the rung fixed to manhole well.
 - (o) If a man has received a physical injury, he should be brought out of the sewer immediately and adequate medical aid should be provided to him.
 - (p) The extent to which these precautions are to be taken depend on individual situation but the decision of the Engineer-in-Charge regarding the steps to be taken in this regard in an individual case will be final.
- (vi) The Contractor shall not employ men and women below the age of 18 years on the work of painting with products containing lead in any form. Wherever men above the age of 18 are employed on the work of lead painting, the following precaution should be taken:-
- (a) No paint containing lead or lead products shall be used except in the form of paste or ready made paint.
 - (b) Suitable face masks should be supplied for use by the workers when paint is applied in the form of spray or a surface having lead paint is dry rubbed and scrapped.
 - (c) Overall shall be supplied by the contractors to the workmen and adequate facilities shall be provided to enable the working painters to wash during and on the cessation of work.

9. An additional clause (viii)(i) of AAI Safety Code (iv) the Contractor shall not employ women and men below the age of 18 on the work of painting with product containing lead in any form, wherever men above the age of 18 are employed on the work of lead painting, the following principles must be observed for such use:

- (i) White lead, sulphate of lead or product containing these pigment, shall not be used in painting operation except in the form of pastes or paint ready for use.
- (ii) Measures shall be taken, wherever required in order to prevent danger arising from the application of a paint in the form of spray.
- (iii) Measures shall be taken, wherever practicable, to prevent danger arising out of from dust caused by dry rubbing down and scraping.
- (iv) Adequate facilities shall be provided to enable working painters to wash during and on cessation of work.
- (v) Overall shall be worn by working painters during the whole of working period.
- (vi) Suitable arrangement shall be made to prevent clothing put off during working hours being spoiled by painting materials.
- (vii) Cases of lead poisoning and suspected lead poisoning shall be notified and shall be subsequently verified by medical man appointed by competent authority of AAI.
- (viii) AAI may require, when necessary medical examination of workers.
- (ix) Instructions with regard to special hygienic precautions to be taken in the painting trade shall be distributed to working painters.



10. When the work is done near any place where there is risk of drowning, all necessary equipments should be provided and kept ready for use and all necessary steps taken for prompt rescue of any person in danger and adequate provision, should be made for prompt first aid treatment of all injuries likely to be obtained during the course of the work.
11. Use of hoisting machines and tackle including their attachments, anchorage and supports shall conform to the following standards or conditions:
 - (i) (a) These shall be of good mechanical construction, sound materials and adequate strength and free from patent defects and shall be kept repaired and in good working order.
(b) Every rope used in hoisting or lowering materials or as a means of suspension shall be of durable quality and adequate strength, and free from patent defects.
 - (ii) Every crane driver or hoisting appliance operator, shall be properly qualified and no person under the age of 21 years should be in charge of any hoisting machine including any scaffolding winch or give signals to operator.
 - (iii) In case of every hoisting machine and of every chain ring hook, shackle swivel and pulley block used in hoisting or as means of suspension, the safe working load shall be ascertained by adequate means. Every hoisting machine and all gear referred to above shall be plainly marked with the safe working load. In case of a hoisting machine having a variable safe working load each safe working load and the condition under which it is applicable shall be clearly indicated. No part of any machine or any gear referred to above in this paragraph shall be loaded beyond the safe working load except for the purpose of testing.
 - (iv) In case of departmental machines, the safe working load shall be notified by the Electrical Engineer-in-Charge. As regards contractor's machines the contractors shall notify the safe working load of the machine to the Engineer-in-Charge whenever he brings any machinery to site of work and get it verified by the electrical Engineer concerned.
12. Motors, gearing, transmission, electric wiring and other dangerous parts of hoisting appliances should be provided with efficient safeguards. Hoisting appliances should be provided with such means as will reduce to the minimum the risk of accidental descent of the load. Adequate precautions should be taken to reduce to the minimum the risk of any part of a suspended load becoming accidentally displaced. When workers are employed on electrical installations which are already energized, insulating mats, wearing apparel, such as gloves, sleeves and boots as may be necessary should be provided. The worker should not wear any rings, watches and carry keys or other materials which are good conductors of electricity.
13. All scaffolds, ladders and other safety devices mentioned or described herein shall be maintained in safe condition and no scaffold, ladder or equipment shall be altered or removed while it is in use. Adequate washing facilities should be provided at or near places of work.
14. These safety provisions should be brought to the notice of all concerned by display on a notice board at a prominent place at work spot. The person responsible for compliance of the safety code shall be named therein by the contractor.
15. To ensure effective enforcement of the rules and regulations relating to safety precautions the arrangements made by the contractor shall be open to inspection by the Labour Officer or Engineer-in-Charge of the department or their representatives.
16. Notwithstanding the above clauses from (1) to (15), there is noting in these to exempt the contractor from the operations of any other Act or Rules in force in the Republic of India.



MODEL RULES FOR THE PROTECTION OF HEALTH AND SANITARY ARRANGEMENTS FOR WORKERS EMPLOYED BY AAI OR ITS CONTRACTORS

1. APPLICATION

These rules shall apply to all buildings and construction works in charge of AAI in which twenty or more workers are ordinarily employed or are proposed to be employed in any day during the period during which the contract work is in progress.

2. DEFINITION

Work place means a place where twenty or more workers are ordinarily employed in connection with construction work on any day during the period during which the contract work is in progress.

3. FIRST-AID FACILITIES

- (i) At every work place, there shall be provided and maintained, so as to be easily accessible during working hours, first-aid boxes at the rate of not less than one box for 150 contract labour or part thereof ordinarily employed.
- (ii) The first-aid box shall be distinctly marked with a red cross on white back ground and shall contain the following equipment.
 - (a) For work places in which the number of contract labour employed does not exceed 50
Each first –aid box shall contain the following equipments:
 - 1. 6 small sterilised dressings
 - 2. 3 medium size sterilised dressings
 - 3. 3 large size sterilised dressings
 - 4. 3 large sterilised burn dressings
 - 5. 1 (30 ml) bottle containing a two per cent alcoholic solution of iodine.
 - 6. 1 (30 ml) bottle containing Sal volatile having the dose and mode of administration indicated on the label.
 - 7. 1 snakebite lancet.
 - 8. 1 (30 gms) bottle of potassium permanganate crystals.
 - 9. 1 pair scissors.
 - 10. 1 copy of the first-aid leaflet issued by the Director General, Factory Advice Service and Labour Institute, Government of India.
 - 11. 1 bottle containing 100 tablets (each of 5 gms) of aspirin.
 - 12. Ointment for burns.
 - 13. A bottle of suitable surgical antiseptic solution.
 - (b) For work places in which the number of contract labour exceed 50. Each first-aid box shall contain the following equipments.



1. 12 small sterilised dressings.
 2. 6 medium size sterilised dressings.
 3. 6 large size sterilised dressings
 4. 6 large size sterilised burn dressings.
 5. 6 (15 gms) packets sterilised cotton wool.
 6. 1 (60 ml). Bottle containing two per cent alcoholic solution iodine.
 7. 1 (60 ml) bottle containing Sal volatile having the dose and mode of administration indicated on the label.
 8. 1 roll of adhesive plaster.
 9. 1 snake bite lancet.
 10. 1 (30 gms) bottle of potassium permanganate crystals.
 11. 1 pair scissors.
 12. 1 copy of the first-aid leaflet issued by the Director General Factory Advice Service and Labour Institute / Government of India.
 13. A bottle containing 100 tablets (each of 5 gms) of aspirin.
 14. Ointment for burns.
 15. A bottle of suitable surgical antiseptic solution.
- (iii) Adequate arrangements shall be made for immediate recoupment of the equipment when necessary.
- (iv) Nothing except the prescribed contents shall be kept in the First-aid box.
- (v) The first-aid box shall be kept in charge of a responsible person who shall always be readily available during the working hours of the work place.
- (vi) a person in charge of the First-aid box shall be a person trained in First-aid treatment in the work places where the number of contract labour employed is 150 or more.
- (vii) In work places where the number of contract labour employed is 500 or more and hospital facilities are not available within easy distance from the works. First-aid posts shall be established and run by a trained compounder. The compounder shall be on duty and shall be available at all hours when the workers are at work.
- (viii) Where work places are situated in places which are not towns or cities, a suitable motor transport shall be kept readily available to carry injured person or person suddenly taken ill to the nearest hospital.

4. DRINKING WATER

- (i) In every work place, there shall be provided and maintained at suitable places, easily accessible to labour, a sufficient supply of cold water fit for drinking.
- (ii) Where drinking water is obtained from an intermittent public water supply, each work place shall be provided with storage where such drinking water shall be stored.
- (iii) Every water supply or storage shall be at a distance of not less than 50 feet from any latrine drain or other source of pollution. Where water has to be drawn from an existing well which is within such proximity of latrine, drain or any other source of pollution, the well shall be properly chlorinated before water is drawn from it for drinking. All such wells shall be entirely closed in and be provided with a trap door which shall be dust and waterproof.



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

5. WASHING FACILITIES

- (i) In every work place adequate and suitable facilities for washing shall be provided and maintained for the use of contract labour employed therein.
- (ii) Separate and adequate cleaning facilities shall be provided for the use of male and female workers.
- (iii) Such facilities shall be conveniently accessible and shall be kept in clean and hygienic condition.

6. LATRINES AND URINALS

- (i) Latrines shall be provided in every work place on the following scale namely:
 - (a) Where female are employed, there shall be at least one latrine for every 25 females.
 - (b) Where males are employed, there shall be at least one latrine for every 25 males.
Provided that, where the number of males or females exceeds 100, it shall be sufficient if there is one latrine for 25 males or females as the case may be upto the first 100, and one for every 50 thereafter.
- (ii) Every latrine shall be under cover and so partitioned off as to secure privacy, and shall have a proper door and fastenings.
- (iii) Construction of latrines: The inside walls shall be constructed of masonry or some suitable heat-resisting non-absorbent materials and shall be cement washed inside and outside at least once a year, Latrines shall not be of a standard lower than borehole system.
- (v) (a) Where workers of both sexes are employed, there shall be displayed outside each block of latrine and urinal, a notice in the language understood by the majority of the workers “For Men only” or “For Women Only” as the case may be.
(b) The notice shall also bear the figure of a man or of a woman, as the case may be.
- (v) There shall be at least one urinal for male workers upto 50 and one for female workers upto fifty employed at a time, provided that where the number of male or female workmen, as the case may be exceeds 500, it shall be sufficient if there is one urinal for every 50 males or females upto the first 500 and one for every 100 or part thereafter.
- (vi) (a) The latrines and urinals shall be adequately lighted and shall be maintained in a clean and sanitary condition at all times.
(b) Latrines and urinals other than those connected with a flush sewage system shall comply with the requirements of the Public Health Authorities.
- (vii) Water shall be provided by means of tap or otherwise so as to be conveniently accessible in or near the latrines and urinals.
- (viii) Disposal of excreta: Unless otherwise arranged for by the local sanitary authority, arrangements for proper disposal of excreta by incineration at the work place shall be made by means of a suitable incinerator. Alternately excreta may be disposed of by putting a layer of night soil at the bottom of a pucca tank prepared for the purpose and covering it with a 15 cm. Layer of waste or refuse and then covering it with a layer of earth for a fortnight (when it will turn to manure).
- (ix) The contractor shall at his own expense, carry out all instructions issued to him by the Engineer-in-Charge to effect proper disposal of night soil and other conservancy work in respect of the



contractor's workmen or employees on the site. The contractor shall be responsible for payment of any charges which may be levied by Municipal or Cantonment Authority for execution of such on his behalf.

7. PROVISION OF SHELTER DURING REST

At every place there shall be provided, free of cost, four suitable sheds, two for meals and the other two for rest separately for the use of men and women labour. The height of each shelter shall not be less than 3 metres (10 ft) from the floor level to the lowest part of the roof. These shall be kept clean and the space provided shall be on the basis of 0.6 sq.m. (6 sft) per head.

Provided that the Engineer-in-Charge may permit subject to his satisfaction, a portion of the building under construction or other alternative accommodation to be used for the purpose.

8. CRECHES

- (i) At every work place, at which 20 or more women workers are ordinarily employed, there shall be provided two rooms of reasonable dimensions for the use of their children under the age of six years. One room shall be used as a play room for the children and the other as their bedroom. The rooms shall be constructed with specifications as per clause 19 H (ii) a,b & c.
- (ii) The rooms shall be provided with suitable and sufficient openings for light and ventilation. There shall be adequate provision of sweepers to keep the places clean.
- (iii) The contractor shall supply adequate number of toys and games in the play room and sufficient number of cots and beddings in the bed room.
- (iv) The contractor shall provide one ayaa to look after the children in the crèche when the number of women workers does not exceed 50 and two when the number of women workers exceed 50.
- (v) The use of the rooms earmarked as crèches shall be restricted to children, their attendants and mothers of the children.

9. CANTEENS

- (i) In every work place where the work regarding the employment of contractor labour is likely to continue for six months and where in contract labour numbering one hundred or more are ordinarily employed, an adequate canteen shall be provided by the contractor for the use of such contract labour.
- (ii) The canteen shall be maintained by the contractor in an efficient manner.
- (iii) The canteen shall consist of at least a dining hall, kitchen, storeroom, pantry and washing places separately for workers and utensils.
- (iv) The canteen shall be sufficiently lighted at all times when any person has access to it.
- (v) The floor shall be made of smooth and impervious materials and inside walls shall be lime-washed or colour washed at least once in each year.

Provided that the inside walls of the kitchen shall be lime washed every four months.

- (vi) The premises of the canteen shall be maintained in a clean and sanitary condition.
- (vii) Waste water shall be carried away in suitable covered drains and shall not be allowed to accumulate so as to cause a nuisance.
- (viii) Suitable arrangements shall be made for the collection and disposal of garbage.
- (ix) The dining hall shall accommodate at a time 30 per cent of the contract labour working at a time.
- (x) The floor area of the dining hall, excluding the area occupied by the service counter and any furniture except tables and chairs shall not be less than one square metre (10 sft) per diner to be accommodated as prescribed in sub-Rule 9.



- (xi) (a) A portion of the dining hall and service counter shall be partitioned off and reserved for women workers in proportion to their number.
- (b) Washing places for women shall be separate and screened to secure privacy.
- (xii) Sufficient tables stools, chairs or benches shall be available for the number of diners to be accommodated as prescribed in Sub-Rule 9.
- (xiii) (a)
 - 1. There shall be provided and maintained sufficient utensils crockery, furniture and any other equipment necessary for the efficient running of the canteen.
 - 2. The furniture utensils and other equipment shall be maintained in a clean and hygienic condition.
- (b)
 - 1. Suitable clean clothes for the employees serving in the canteen shall be provided and maintained.
 - 2. A service counter, if provided, shall have top of smooth and impervious material.
 - 3. Suitable facilities including an adequate supply of hot water shall be provided for the cleaning of utensils and equipments.
- (xiv) The food stuffs and other items to be served in the canteen shall be in conformity with the normal habits of the contract labour.
- (xv) The charges for food stuffs, beverages and any other items served in the canteen shall be based on 'No Profit, No loss' and shall be conspicuously displayed in the canteen.
- (xvi) In arriving at the price of foodstuffs, and other article served in the canteen, the following items shall not be taken into consideration as expenditure namely :-
 - (a) The rent of land and building.
 - (b) The depreciation and maintenance charges for the building and equipments provided for the canteen.
 - (c) The cost of purchase, repairs and replacement of equipments including furniture, crockery, cutlery and utensils.
 - (d) The water charges and other charges incurred for lighting and ventilation.
 - (e) The interest and amounts spent on the provision and maintenance of equipments provided for the canteen.
- (xvii) The accounts pertaining to the canteen shall be audited once every 12 months by registered accountants and auditors.

10. ANTI-MALARIAL PRECAUTIONS

The contractor shall at his own expense, conform to all anti-malarial instructions given to him by the Engineer-in-Charge including the filling up of any borrow pits which may have been dug by him.

- 11.** The above rules shall be incorporated in the contracts and in notices inviting tenders and shall form an integral part of the contracts.

12. AMENDMENTS

AAI may, from time to time, add to or amend these rules and issue directions - it may consider necessary for the purpose of removing any difficulty which may arise in the administration thereof.



AIRPORTS AUTHORITY OF INDIA
Contractor's Labour Regulations

1. SHORT TITLE

These regulations may be called the AAI Contractors Labour Regulations.

2. DEFINITIONS

(i) **Workman** means any person employed by AAI or its contractor directly or indirectly through a subcontractor with or without the knowledge of the AAI to do any skilled, semiskilled or unskilled manual, supervisory, technical or clerical work for hire or reward, whether the terms of employment are expressed or implied but does not include any person :-

- a) Who is employed mainly in a managerial or administrative capacity: or
- b) Who, being employed in a supervisory capacity draws wages exceeding five hundred rupees per mensem or exercises either by the nature of the duties attached to the office or by reason of powers vested in him, functions mainly of managerial nature : or
- c) Who is an out worker, that is to say, person to whom any article or materials are given out by or on behalf of the principal employers to be made up cleaned, washed, altered, ornamental finished, repaired adopted or otherwise processed for sale for the purpose of the trade or business of the principal employers and the process is to be carried out either in the home of the out worker or in some other premises, not being premises under the control and management of the principal employer.

No person below the age of 14 years shall be employed to act as a workman.

(ii) **Fair Wages** means wages whether for time or piece work fixed and notified under the provisions of the Minimum Wages Act from time to time.

(iii) **Contractors** shall include every person who undertakes to produce a given result other than a mere supply of goods or articles of manufacture through contract labour or who supplies contract labour for any work and includes a subcontractor.

(iv) **Wages** shall have the same meaning as defined in the Payment of Wages Act.

- 3.**
- i) Normally working hours of an adult employee should not exceed 9 hours a day. The working day shall be so arranged that inclusive of interval for rest, if any, it shall not spread over more than 12 hours on any day.
 - (ii) When an adult worker is made to work for more than 9 hours on any day or for more than 48 hours in any week, he shall be paid over time for the extra hours put in by him at double the ordinary rate of wages.
 - iii)
 - a) Every worker shall be given a weekly holiday normally on a Sunday, in accordance with the provisions of the Minimum Wages (Central) Rules 1960 as amended from time to time irrespective of whether such worker is governed by the Minimum Wages Act or not.
 - b) Where the minimum wages prescribed by the Central/State Government under the Minimum Wages Act are not inclusive of the wages for the weekly day of rest, the worker shall be entitled to rest day wages at the rate applicable to the next preceding day, provided he has worked under the same contractor for a continuous period of not less than 6 days.



- c) Where a contractor is permitted by the Engineer-in-Charge to allow a worker to work on a normal weekly holiday, he shall grant a substituted holiday to him for the whole day on one of the five days immediately before or after the normal weekly holiday and pay wages to such worker for the work performed on the normal weekly holiday at overtime rate.

4. **DISPLAY OF NOTICE REGARDING WAGES ETC.**

The contractor shall before he commences his work on contract, display and correctly maintain and continue to display and correctly maintain in a clear and legible condition in conspicuous places on the work, notices in English and in the local Indian languages spoken by the majority of the workers giving the minimum rates of wages fixed under Minimum Wages Act, the actual wages being paid, the hours of work for which such wage are earned, wages periods, dates of payments of wages and other relevant information as per Appendix 'III'.

5. **PAYMENT OF WAGES**

- i) The contractor shall fix wage periods in respect of which wages shall be payable.
- ii) No wage period shall exceed one month.
- iii) The wages of every person employed as contract labour in an establishment or by a contractor where less than one thousand such persons are employed shall be paid before the expiry of seventh day and in other cases before the expiry of tenth day after the last day of the wage period in respect of which the wages are payable.
- iv) Where the employment of any worker is terminated by or on behalf of the contractor the wages earned by him shall be paid before the expiry of the second working day from the date on which his employment is terminated.
- v) All payment of wages shall be made on a working day at the work premises and during the working time and on a date notified in advance and in case the work is completed before the expiry of the wage period, final payment shall be made within 48 hours of the last working day.
- vi) Wages due to every worker shall be paid to him direct or to other person authorised by him in this behalf.
- vii) All wages shall be paid in current coin or currency or in both.
- viii) Wages shall be paid without any deductions of any kind except those specified by the Central Government by general or special order in this behalf or permissible under the Payment of Wages Act 1956.
- ix) A notice showing the wages period and the place and time of disbursement of wages shall be displayed at the place of work and a copy sent by the contractor to the Engineer-in-Charge under acknowledgement.
- x) It shall be the duty of the contractor to ensure the disbursement of wages in the presence of the Senior Superintendent Engg or authorised representative of the Engineer-in-Charge who will be required to be present at the place and time of disbursement of wages by the contractor to workmen.
- xi) The contractor shall obtain from Senior Superintendent Engg. or the authorised representative of the Engineer-in-Charge a certificate under his signature at the end of the entries in the "Register of Wages" or the "Wage-cum-Muster Roll" as the case may be in the following form:

"Certified that the amount shown in column No. has been paid to the workman concerned in my presence onat....."



6. FINES AND DEDUCTIONS WHICH MAY BE MADE FROM WAGES

- (i) The wages of a worker shall be paid to him without any deduction of any kind except the following:
 - (a) Fines
 - (b) Deductions for absence from duty i.e. from the place or the places where by the terms of his employment he is required to work. The amount of deduction shall be in proportion to the period for which he was absent.
 - (c) Deduction for damage to or loss of goods expressly entrusted to the employed person for custody, or for loss of money or any other deduction which he is required to account, where such damage or loss is directly attributable to his neglect or default.
 - (d) Deduction for recovery of advances or for adjustment of overpayment of wages, advances granted shall be entered in a register.
 - (e) Any other deduction which the Central Government may from time to time allow.
- (ii) No fines should be imposed on any worker save in respect of such acts and omissions on his part as have been approved of by the Chief Labour Commissioner.

Note: An approved list of Acts and Omissions for which fines can be imposed is enclosed at Appendix-X
- (iii) No fine shall be imposed on a worker and no deduction for damage or loss shall be made from his wages until the worker has been given an opportunity of showing cause against such fines or deductions.
- (iv) The total amount of fine which may be imposed in any one wage period on a worker shall not exceed an amount equal to three paise in a rupee of the total wages, payable to him in respect of that wage period.
- (v) No fine imposed on any worker shall be recovered from him by installment, or after the expiry of sixty days from the date on which it was imposed.
- (vi) Every fine shall be deemed to have been imposed on the day of the act or omission in respect of which it was imposed.

7. LABOUR RECORDS

- (i) The contractor shall maintain a Register of persons employed on work on contract in Form XIII of the CL(R&A) Central Rules 1971 (Appendix IV)
- (ii) The contractor shall maintain a Muster Roll register in respect of all workmen employed by him on the work under Contract in Form XVI of the CL (R&A) Rules 1971 (Appendix V).
- (iii) The contractor shall maintain a Wage Register in respect of all workmen employed by him on the work under contract in Form XVII of the CL (R&A) Rules 1971 (Appendix VI)
- (iv) **Register of accident** - The contractor shall maintain a register of accidents in such form as may be convenient at the work place but the same shall include the following particulars :
 - (a) Full particulars of the labourers who met with accident.
 - (b) Rate of Wages
 - (c) Sex
 - (d) Age



- (e) Nature of accident and cause of accident
 - (f) Time and date of accident
 - (g) Date and time when admitted in Hospital
 - (h) Date of discharge from the Hospital
 - (i) Period of treatment and result of treatment
 - (j) Percentage of loss of earning capacity and disability as assessed by Medical Officer
 - (k) Claim required to be paid under Workmen's Compensation Act.
 - (l) Date of payment of compensation
 - (m) Amount paid with details of the person to whom the same was paid
 - (n) Authority by whom the compensation was assessed.
 - (o) Remarks
- v) The contractor shall maintain a **Register of Fines** in the Form XII of the CL(R&A) Rules 1971 (Appendix-XI)
The contractor shall display in a good condition and in a conspicuous place of work the approved list of acts and omissions for which fines can be imposed (Appendix-X)
- vi) The contractor shall maintain a **Register of deductions for damage or loss** in Form XX of the CL (R&A) Rules 1971 (Appendix-XII)
- vii) The contractor shall maintain a **Register of Advances** in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIII)
- viii) The contractor shall maintain a **Register of Overtime** in Form XXIII of the CL (R&A) Rules 1971 (Appendix-XIV)

8. ATTENDANCE CARD-CUM-WAGE SLIP

- i) The contractor shall issue an **Attendance card-cum-wage** slip to each workman employed by him in the specimen form at (Appendix-VII)
- ii) The card shall be valid for each wage period.
- iii) The contractor shall mark the attendance of each workman on the card twice each day, once at the commencement of the day and again after the rest interval, before he actually starts work.
- iv) The card shall remain in possession of the worker during the wage period under reference.
- v) The contractor shall complete the wage slip portion on the reverse of the card at least a day prior to the disbursement of wages in respect of the wage period under reference.
- vi) The contractor shall obtain the signature or thumb impression of the worker on the wage slip at the time of disbursement of wages and retain the card with himself.

9. EMPLOYMENT CARD

The contractor shall issue an **Employment Card** in Form XIV of the CL (R&A) Central Rules 1971 to each worker within three days of the employment of the worker (Appendix-VIII).

10. SERVICE CERTIFICATE

On termination of employment for any reason whatsoever the contractor shall issue to the workman whose services have been terminated, a **Service certificate** in Form XV of the CL(R&A) Central Rules 1971 (Appendix-IX)



11. PRESERVATION OF LABOUR RECORDS

All records required to be maintained under Regulations Nos. 6 & 7 shall be preserved in original for a period of three years from the date of last entries made in them and shall be made available for inspection by the Engineer-in-Charge or Labour Officer or any other officers authorised by the Ministry of Urban Development in this behalf.

12. POWER OF LABOUR OFFICER TO MAKE INVESTIGATIONS OR ENQUIRY

The Labour Officer or any person authorised by Central Government on their behalf shall have power to make enquiries with a view to ascertaining and enforcing due and proper observance of Fair Wage Clauses and the Provisions of these Regulations. He shall investigate into any complaint regarding the default made by the contractor or subcontractor in regard to such provision.

13. REPORT OF LABOUR OFFICER

The Labour Officer or other persons authorised as aforesaid shall submit a report of result of his investigation or enquiry to the Engineer-in-Charge concerned indicating the extent, if any, to which the default has been committed with a note that necessary deductions from the contractor's bill be made and the wages and other dues be paid to the labourers concerned. In case an appeal is made by the contractor under Clause 13 of these regulations, actual payment to labourers will be made by the Engineer-in-Charge after G.M. Engg. has given his decision on such appeal.

- (i) Engineer-in-Charge shall arrange payments to the labour concerned within 45 days from the receipt of the report from the Labour Officer or the G.M. Engineer as the case may be.

14. APPEAL AGAINST THE DECISION OF LABOUR OFFICER

Any person aggrieved by the decision and recommendations of the Labour Officer or other person so authorised may appeal against such decision to the Engineer-in-Charge concerned within 30 days from the date of decision, but subject to such appeal, the decision of the officer shall be final and binding upon the contractor.

15. PROHIBITION REGARDING REPRESENTATION THROUGH LAWYER

- i) A workman shall be entitled to be represented in any investigation or enquiry under these regulations by :
 - a) An officer of a registered trade union of which he is a member.
 - b) An officer of a federation of trade unions to which the trade union referred to in Clause (a) is affiliated.
 - c) Where the employer is not a member of any registered trade union, by an officer of a registered trade union, connected with the industry in which the worker is employed or by any other workman employed in the industry in which the worker is employed.
- ii) An employer shall be entitled to be represented in any investigation or enquiry under these regulations by :
 - a) An officer of an association of employers of which he is a member.
 - b) An officer of a federation of associations of employers to which association referred to in Clause(a) is affiliated.
 - c) Where the employers is not a member of any association of employers, by an officer of association of employer connected with the industry in which the employer is engaged or by any other employer, engaged in the industry in which the employer is engaged.
- iii) No party shall be entitled to be represented by a legal practitioner in any investigation or enquiry under these regulations.



16. INSPECTION OF BOOKS AND SLIPS

The contractor shall allow inspection of all the prescribed labour records to any of his workers or to his agent at a convenient time and place after due notice is received or to the Labour Officer or any other person, authorised by the Central Government on his behalf .

17. SUBMISSION OF RETURNS

The contractor shall submit periodical returns as may be specified from time to time.

18. AMENDMENTS

The Central Government/AAI may from time to time add to or amend the regulations and on any question as to the application/interpretation or effect of those regulations the decision of the General Manager (Engg.) concerned shall be final.

प्रसूति प्रसुविधाओं का रजिस्टर (ठेके की शर्तों का खण्ड 19-च)

REGISTER OF MATERNITY BENEFITS (Clause 19 F)

ठेकेदार का नाम और पता

Name and address of the contractor.....

कार्य का नाम और स्थिति

Name and location of the work.....

कर्मचारी का नाम	पिता/पति का नाम	नियोजन का स्वरूप	वास्तविक नियुक्ति की अवधि	तारीख जिसको प्रसवावस्था की सूचना दी गई
Name of the employee	Father's/ husband's name	Nature of employment	Period of actual employment	Date on which notice of confinement given
1	2	3	4	5

तारीख जिसको प्रसूति छुट्टी प्रारम्भ हुई और समाप्त हुई
Date on which maternity leave commenced and ended

प्रसव/ गर्भपात की तारीख Date of delivery/ miscarriage	प्रसव की दशा में In case of delivery		गर्भपात की दशा में In case of miscarriage	
	प्रारम्भ हुई commenced	समाप्त हुई Ended	प्रारम्भ हुई commenced	समाप्त हुई Ended
6	7	8	9	10

कर्मचारी को संदत्त छुट्टी वेतन
Leave Pay paid to the employee

प्रसव की दशा में In case of delivery		गर्भपात की दशा में In case of miscarriage		टिप्पणियां Remarks
छुट्टी वेतन की दर Rate of leave pay	संदत्त रकम Amount paid	छुट्टी वेतन की दर Rate of leave pay	संदत्त रकम Amount paid	
11	12	13	14	15



**SPECIMEN FORM OF THE REGISTER, REGARDING
MATERNITY BENEFIT ADMISSION TO THE CONTRACTOR'S LABOUR IN AIRPORTS
AUTHORITY OF INDIA WORKS**

Name and address of the contractor-----

Name and location of the work-----

- 1 Name of the woman and her husband's name
- 2 Designation
- 3 Date of appointment
- 4 Date with months and years in which she is employed.
- 5 Date of discharge/dismissal, if any
- 6 Date of production of certificates in respect of pregnancy.
- 7 Date on which the woman informs about the expected delivery.
- 8 Date of delivery/ miscarriage /death.
- 9 Date of production of certificate in respect of delivery/miscarriage.
- 10 Date with the amount of maternity/death benefit paid in advance of expected delivery
- 11 Date with amount of subsequent payment of maternity benefit
- 12 Name of the person nominated by the woman to receive the payment of the maternity benefit after the death.
- 13 If the woman dies, the date of her death, the name of the person to whom maternity benefit amount was paid, the month thereof and the date in the register.
- 14 Signature of the contractor authenticating entries in the register.
- 15 Remarks column for the use of Inspection Officer.



Labour Board

Name of work Name

of Contractor Address

of Contractor

Name and address of A. A. I. Division

Name of A. A. I. Labour Officer.....

Address of A. A. I. Labour Officer

Name of A.A.I Labour Officer

Sl.No.	Category	Minimum wage Fixed	Actual Wage Paid	Number Present	Remark
--------	----------	--------------------	------------------	----------------	--------

Weekly holiday

wage period

Date of payment of wages

Working hours

Rest interval



Form – XIII (See Rule 75)

Register for Workmen Employed by Contractor

Sl. No.	1	2	3	4	5	6	7	8	9	10	11	12
Name and Surname of Workman	Age and Sex	Father's/Husband's Name	Name and Employment Designation	Permanent home address of Workman (Vill. And Tehsil, Taluk and District)	Local Address	Date of commencement of employment	Signature/Thumb impression of the workman	Date of termination of employment	Reasons for termination	Remarks		

Appendix IV



Form – XVI (See Rule 78 (2) (a))
Muster Roll

Name and address of contractor

Name and address of establishment under which contract is carried on
.....

Name and address of principle Employer
.....For the month of fortnight.....

Sl No. 1	Name of workman 2	Sex 3	Father's / Husband's Name 4	Date 5					Remarks 6
				1	2	3	4	5	

Proforma of Registers

Form – XVII (See Rule 78 (2) (a))



Register for Wages

Appendix VI

Name and address of contractor

Name and address of establishment under which contract is carried on

Name and address of Principal Employer

..... wages Period For the month of fortnight.....

Initial contractor or his representative	16		
Signature / Thumb impression of the workman	15		
Net Amount paid	14		
Deduction if any (indicate nature)	13		
Amount of wages earned	Total	12	
	Other cash payments (indicate nature)	11	
	Overtime	10	
	Dearness allowances	9	
	Basic wages	8	
Daily rate of wages / piece rate	7		
Units of work done	6		
No. of days worked	5		
Designation / Nature of Work done	4		
Serial in the register of workman	3		
Name of Workman	2		
S. No.	1		



फार्म 19 / Form-XIX

परिशिष्ट / Appendix 'VII'
(पिछली तरफ / Reverse)

(कृपया नियम 78 (2)(ख) देखें)
[See rule 78 (2) (b)]

मजदूरी कार्ड
Wages Slip

ठेकेदार का नाम व पता

Name and address of contractor.....

मजदूर का नाम तथा उसके पिता/पति का नाम

Name and Father's/Husband's name of workman.....

कार्य का स्वरूप तथा स्थान का नाम

Name and location of work.....

सप्ताह/पक्ष/मास के लिए

For the Week/Fortnight/Month ending.....

1. जितने दिन कार्य किया

No. of days worked.....

2. किए गए कार्य के एककों की संख्या (पीस रेट मजदूरों के बारे में)

No. of units worked in case of piece rate workers.....

3. दैनिक मजदूरी की दर/पीस रेट

Rate of daily wages/piece rate.....

4. समयोपरि मजदूरी की रकम

Amount of overtime wages.....

5. दी जाने वाली कुल रकम

Gross wages payable.....

6. वसूलियां, यदि कोई हो

Deduction, if any.....

7. दी गई मजदूरी की शुद्ध रकम

Net amount of wages paid.....

ठेकेदार अथवा उसके प्रतिनिधि के हस्ताक्षर
Initials of the contractor or his representative

फार्म 14 / Form-XIV

परिशिष्ट / Appendix 'VIII'

(कृपया नियम 76 देखें)
[See rule 76]

**रोजगार कार्ड
Employment Card**

ठेकेदार का नाम व पता
Name and address of contractor.....

कार्यालय का नाम व पता जिसके अधीन ठेका चल रहा है
Name and address of establishment under which contract is carried

कार्य का नाम व स्थान
Name of work and location of work.....

मुख्य नियोक्ता का नाम व स्थान
Name and address of Principal Employer.....

1. मजदूर का नाम
Name of the workman.....

2. लगाये गए मजदूरों के रजिस्टर में क्रम संख्या
Sl. No. in the register of workman employed.....

3. रोजगार/पद का नाम
Nature of employment/designation.....

4. मजदूरी की दर
(पीस वर्क के बारे में एकक के ब्यौरा सहित)
Wage rate (with particulars of unit in case of piece work).....

5. मजदूरी की अवधि
Wage period.....

6. रोजगार की अवधि
Tenure of employment.....

7. टिप्पणी
Remark.....

ठेकेदार के हस्ताक्षर
Signature of contractor



Form – XV (See Rule 77)

Service Certificate

Appendix IX

Name and address of contractor

Nature and location of work.....

Name and address of workman

Age / Date of birth.....

Identification Marks

Father's / Husband's Name

Name and address of establishment under which contract is carried on
.....

Name and address of Principal Employer

S. No.	Total period for which employed		Nature of work done	Rate of wages (with particulars of unit in case of piece rate)	Remarks
	From	To			
1	2	3	4	5	6

Signature



Appendix 'X'

LIST OF ACTS AND OMISSIONS FOR WHICH FINES CAN BE IMPOSED

In accordance with rule 7(v) of the AAI Contractor's Labour Regulations to be displayed prominently at the site of work both in English and local Language.

- 1 Willful insubordination or disobedience, whether alone or in combination with other.
- 2 Theft fraud or dishonesty in connection with the contractors beside a business or property of AAI.
- 3 Taking or giving bribes or any illegal gratifications
- 4 Habitual late attendance.
- 5 Drunkenness lighting, riotous or disorderly or indifferent behaviour
- 6 Habitual negligence.
- 7 Smoking near or around the area where combustible or other materials are locked
- 8 Habitual Indiscipline
- 9 Causing damage to work in the progress or to property of the AAI or of the contractor.
- 10 Sleeping on duty.
- 11 Malingering or slowing down work.
- 12 Giving of false information regarding name, age, father's name, etc.
- 13 Habitual loss of wage cards supplied by the employer's



- 14 Unauthorised use of employer's property of manufacturing or making of unauthorised particles at the work place
- 15 Bad workmanship in construction and maintenance by skilled workers which is not approved by the Department and for which the contractors are compelled to undertake rectifications.
- 16 Making false complaints and/or misleading statements.
- 17 Engaging on trade within the premises of the establishments.
- 18 Any unauthorised divulgence of business affairs of the employees.
- 19 Collection or canvassing for the collection of any money within the premises of an establishment unless authorised by the employer.
- 20 Holding meeting inside the premises without previous sanction of the employers.
- 21 Threatening or intimidating any workman or employer during the working hours within the premises



Form – XII (See Rule 78 (2) (d))

Register of Fines

Appendix XI

Name and address of contractor

Name and address of establishment under which contract is carried on

Nature and location of work

Name and address of principal Employer

Remarks	12	
Date on which fine realised	11	
Amount of fine imposed	10	
Wage period and wages payable	9	
Name of person in whose presence employee's explanation was heard	8	
Whether workman showed cause against fine	7	
Date of offence	6	
Act / Provision for which fine imposed	5	
Designation / Nature of employment	4	
Father / Husband's Name	3	
Name of Workman	2	
S. No.	1	

Proforma of Registers



Form – XX (See Rule 78 (2) (d))

Register of Deduction for Damage or loss

Appendix XII

Name and address of contractor

Name and address of establishment under which contract is carried on

Nature and location of work

Name and address of principal Employer

Sl. No.	1	
Name of Workman	2	
Father / Husband's Name	3	
Designation / Nature of employment	4	
Particulars of damage or loss	5	
Date of damage or loss	6	
Whether workman showed cause against fine	7	
Name of person in whose presence employees explanation was heard	8	
Amount of deduction imposed	9	
No. of installment	10	
Date of recovery	First installment	11
	Last installment	12
Remarks	13	



Form – XXII (See Rule 78 (2) (d))

Register of Advances

Appendix XIII

Name and address of contractor

Name and address of establishment under which contract is carried on

Nature and location of work

Name and address of principal Employer

Remarks	11	
Date by which last installment was repaid	10	
Date and amount of each installment repaid	9	
No. of instalments by which advance to be repaid	8	
Purpose for which advance given	7	
Date and amount of advance given	6	
Wage period and wages payable	5	
Description / Nature of employment	4	
Father / Husband's Name	3	
Name of Workman	2	
Sl. No.	1	

Proforma of Registers



Form – XXIII (See Rule 78 (2) (e))

Register of Overtime

Appendix XIV

Name and address of contractor

Name and address of establishment under which contract is carried on

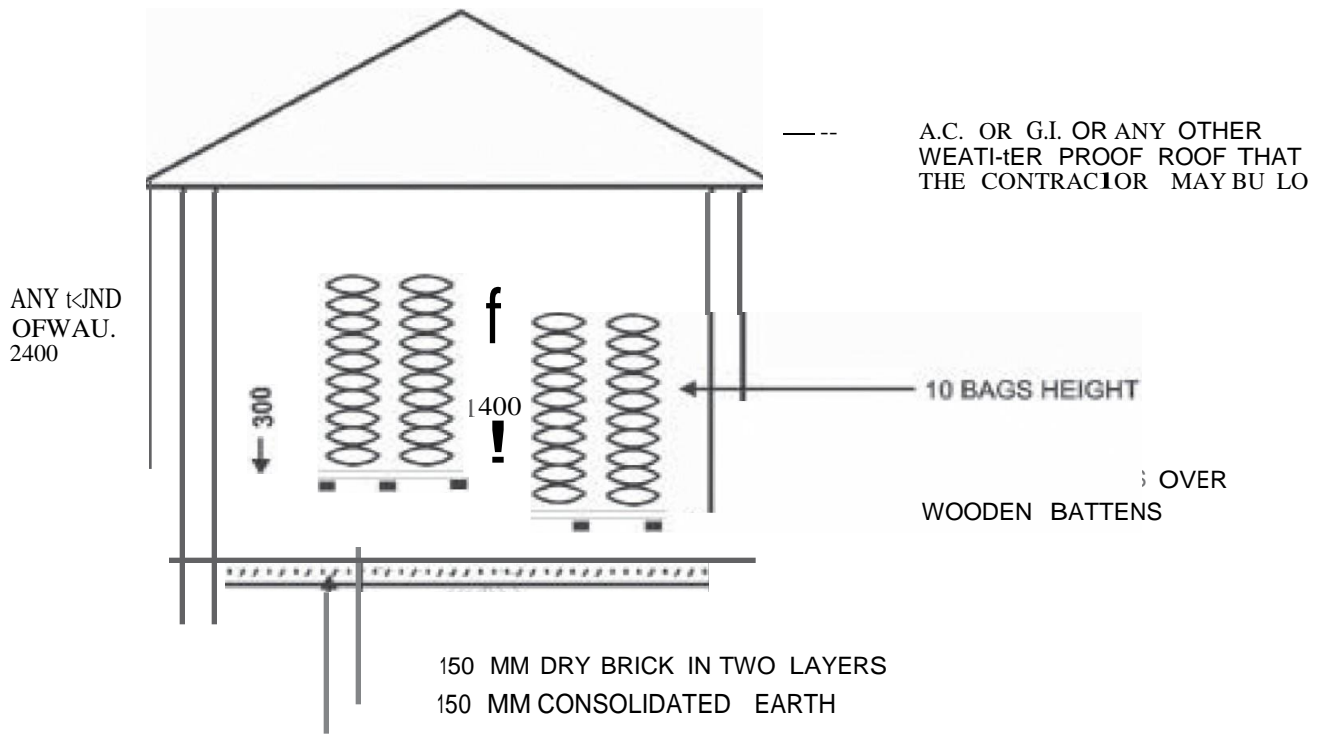
Nature and location of work

Name and address of principal Employer

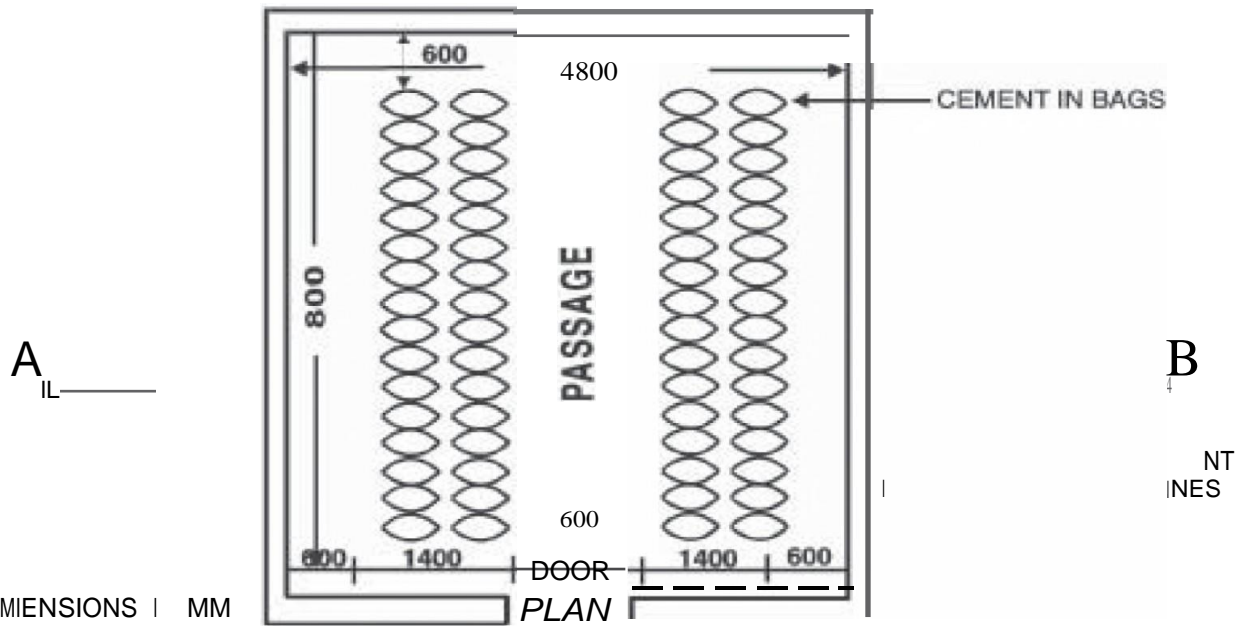
Sl. No .	1	
Name of Workman	2	
Father / Husband's Name	3	
Sex	4	
Designation/ Nature of employment	5	
Date on which overtime worked	6	
Total overtime worked or production in case of piece rate	7	
Normal rate of wages	8	
Overtime rate of wages	9	
Overtime earnings	10	
Rate on which overtime paid	11	
Remarks	12	

A.A.I.

सीमेन्ट गोदाम का रेखाचित्र / SKETCH OF CEMENT GODOWN



SECTION AS



ALL DIMENSIONS | MM

ANNEX-I

PROFORMA FOR MANDATORY TESTS TO BE ATTACHED WITH RUNNING ACCOUNT BILLS

Name of work:..... Name of Contract

Contract Agreement No. and Date..... R/A Bill No.....

S.No	Item	Quantities as per Agreement	Frequency as per Specification	No. Of Tests Required	Up to Date Quantity	No. Of Tests Required	No. Of Tests Actually Done	Remarks	
1	2	3	4	5	6	7	8	9	
				<i>Deleted</i>					

Note: If the number of tests done are less than required, then reasons shall be recorred

Signature of Spdt. (Engg)

Signature of Engineer-in-Charge.

Signature of Manager /AM (Engg)





**FORM OF PERFORMANCE SECURITY (GUARANTEE)
Bank Guarantee Bond**

(i) In consideration of the Chairman, AAI (hereinafter called “AAI”) having offered to accept the terms and conditions of the proposed agreement between and.....[hereinafter called the said Contractor(s)] for the work.....(herein after “the said agreement”) having agreed to production of a irrevocable Bank Guarantee for Rs.....(Rupees.....only) as a security / guarantee from the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

We.....(indicate the name of the Bank) (hereinafter referred to as “the Bank”) hereby undertake to pay to the Chairman, AAI an amount not exceeding Rs.....(Rupees.....only) on demand by AAI.

(ii) We.....(Indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this Guarantee without any demure, merely on a demand from AAI stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this Guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....(Rupees.....only).

(iii) We, the said Bank, further undertake to pay to the Chairman, AAI any money so demanded notwithstanding any dispute or disputes raised by the contractor(s) in any suit or proceeding pending before any court or tribunal relating thereto, our liability under this present being absolute and unequivocal.

The payment so made by us under his bond shall be a valid discharge of our liability for payment there under and the contractor(s) shall have no claim against us for making such payment.

(iv) We.....(Indicate the name of the bank) further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of AAI under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged or till Engineer-in-Charge on behalf of AAI certified that the terms and conditions of the said agreement have been fully and properly carried out by the said contractor(s) and accordingly discharges this guarantee.



- v) We.....(indicate the name of the bank) further agree with AAI that AAI shall have the fullest liberty without our consent and without effecting in any manner our obligations hereunder to vary any of terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by AAI against in the said contractor(s) and to forebear or enforce any of the terms and conditions relating to the said agreement and we shall not be relived from our liability by reason of any such variation, or extensions being granted to the said contractor(s) or for any forbearance, act of omission on the part of AAI or any indulgence by the AAI to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.
- (vi) This guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).
- (vii) We.....(Indicate the name of the bank) lastly undertake not to revoke this guarantee except with the previous consent of AAI in writing.
- (viii) This guarantee shall be valid upto.....*..... unless extended on demand by AAI. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs.....(Rupees.....only) and unless a claim in writing is lodged within six months of the date of expiry or the extended date of expiry of this guarantee all our liabilities under this guarantee shall stand discharged.

In presence of:

WITNESS

- 1
- 2

Dated this _____ Day of _____

For and on behalf of (The Bank)

Signature _____

Name & Designation _____

Authorisation No. _____

Name & Place _____

Bank's Seal _____

The above Guarantee is accepted by Airports Authority of India. For and on behalf of Airports Authority of India.

Signature _____

Name _____

Designation _____

Dated _____

Note: * Date of validity should be schedule date of completion + Six months.



SCHEDULES

SCHEDULE 'A'

Schedule of quantities (Enclosed): -

Before quoting rates in "Items" Section in financial bid, the bidders are advised to read the full description of respective items & unit of Schedule of Quantities sheet at page 152 to 158 in conjunction with the short description of items & unit.

(Signature of Issuing Officer)

(Signature of contractor)

Date: _____

Date: _____



SCHEDULE 'B'

Schedule of Materials to be issued to the Contractor

Sl. No.	Description of Items	Quantity	Rates in Figure & words at which the material will be charged to the contractor	Place of Issue
1	2	3	4	5
Not Applicable				

SCHEDULE 'C'

Tools and plants to be hired to the Contractor

Sl. No.	Description	Hire charges per day (Rs.)	Place of Issue
1	2	3	4
Not Applicable			

SCHEDULE 'D'

Extra schedule for specific requirements/documents for the work, if any.

Not Applicable



SCHEDULE 'E'

Schedule of component of, other Materials Labour etc. for price escalation.	- N.A. -
---	-----------------

CLAUSE 10 CC Component of civil (except cement, steel reinforcement bars, steel structural and bitumen)/Electrical construction Material-expressed as percent of total value of work.	Xm.....%
Component of labour-expressed as percent of total value of work.	Y.....%
Component of P.O.L. – expressed as percent of total value work.	Z.....%



SCHEDULE 'F'

(REFERENCE TO GENERAL CONDITIONS OF CONTRACT.)

Name of work: - "SITC of 500 KW p Grid Connected Solar Roof Top Power Plant at Trivandrum Airport."

Estimated cost of work	:	4,33,76,424/-
i) Earnest money	:	Rs. 8,67,528/- (Rupees Eight Lakhs Sixty Seven Thousand Five Hundred and Twenty Eight Only)
ii) Security Deposit	:	a) 10 % of contract value
General Rules & Direction:		
Officer inviting tender –		Senior Manager (Engg-E), EMATS,AAI, Trivandrum Airport, Trivandrum -695 008
Maximum percentage for quantity of items of work to be executed beyond		See below
Definitions		
2(v) Office Inviting tender		Senior Manager (Engg-E), EMATS, AAI, Trivandrum Airport, Trivandrum -695 008
2(vii) Accepting Authority		As per DOP
2(x) Percentage on cost of materials and labour to cover all overheads and profit.		15%
2(xi) Standard Schedule of Rates		MR
2(xii) Department		Engineering (Electrical) – AAI
9 (ii) Standard A.A.I. contract Form		D.E. Form 7/8 as modified and corrected upto date.
Clause 1		
i) Time allowed for submission of Performance Guarantee.		NA
ii) Maximum allowable extension beyond the period (provided in I) above		NA



Clause 2	
Authority for fixing compensation under clause 2	As per DOP of AAI
Clause 2A	
Whether clause 2A shall applicable	Not applicable
Clause 5	
Number of day from the date of issue of Letter of Acceptance for reckoning date of start.	10 Days

Mile stone (s) as per table given below: -

Table of Mile Stone (s)

Sl. No	Description of Milestones (Physical)	Time Allowed, in days (from date of start)	Amount to be withheld in non achievement milestone
<i>As per clause no. 5 of GCC and special condition of contract.</i>			
	Time allowed for execution of work.		05 Months
	Clause 6, 6A		6 A
	Clause 7		
	Gross work to be done together with net payment/adjustment of advances for material collected. If any since the last such payment for being eligible to interim payment.		As per payment terms & conditions
	Clauses 10A		
	List of testing equipment to be provided by the contractor at site lab.		
	As required for successful testing & commissioning of Solar System		
	(i) Clause 10 B (ii)		
	Whether clause 10 B (ii) shall be applicable		NO



Clause 10CA		
Materials covered under this clause	Nearest Materials for which All India Wholesale Price Index is to be followed	Base Price of all material covered under clause 10CA
1. N - A	1. N - A	1. N - A
2. N - A	2. N - A	2. N - A
3. N - A	3. N - A	3. N - A
4. N - A	4. N - A	4. N - A
Clause 10 CC		
Clause 10CC to be applicable in contractors with stipulated period of completion exceeding the period show in text column.		N.A
Clause 11		
Specification to be followed for execution of work.		As per tender and CPWD / BIS specification with upto date amendments / MNRE & SECI guidelines.
Clause 12		
12.2 & 12.3	Deviation limit beyond which clauses 12.2 & 12.3 shall apply for this work	+/- 30 % of (Individual Item)
12.5	Deviation limit beyond which clauses 12.2 & 12.3 shall apply for foundation N - A	
Clause 16		
Competent Authority for deciding reduced rates.		Concerned JGM / DGM
Clause 18		
List of mandatory machinery, tools & plants to be deployed by the contractor at site.		
All the tools & plants required for successful installation, measuring, testing & commissioning of the work.		



Clause 36(I)							
Sl. No.	Minimum qualification of technical Representative	Discipline	Designation (Principle Technical/ Technical Representative)	Minimum Experience	N u m b e r	Rate at which recovery shall be made from the contractor in the event of not fulfilling Provision of clause 36 (i)	
						Figures	Words
1.	B-Tech/B-Engg	Electrical & Electronics	Principle Technical Representative	2Years	1	1500 per day	Fifteen Hundred per day

Assistant Engineer retired from Government Services that are holding Diploma will be treated at par with Graduate Engineers.

**ACCEPTANCE LETTER
(Refer Clause 26 of Notice Inviting Tender)**

To

Senior Manager (Engg-E)
EMATS, Airports Authority of India,
Trivandrum Airport ,Trivandrum – 695 008

Sir,

ACCEPTANCE OF AAI'S TENDER CONDITIONS

1. The tender documents for the work **“SITC of 500 KWp Grid Connected Solar Roof Top Power Plant at Trivandrum Airport”** have been sold to me/us by Airports Authority of India. and I/we hereby certify that I/we have inspected the site and read the entire terms and conditions of the tender documents made available to me/us in the office of Senior Manager Engg (E), EMATS, AAI, Trivandrum Airport ,Trivandrum - 695 008 which shall form part of the contract agreement and I/We shall abide by the conditions/clauses contained therein.
2. I/We hereby unconditionally accept the tender conditions of AAI's tender documents in its entirety for the above work.
3. The contents of **Clause 25** of Notice Inviting Tender of the Tender Documents have been noted wherein it is clarified that after unconditionally accepting the tender conditions in its entirety, it is not permissible to put any remarks/conditions (except unconditional rebate on quoted rates if any) in the tender document and the same has been followed in the present case. In case, this provisions of the tender if found violated after opening of tender, I/We agree that the tender shall be rejected and AAI shall without prejudice to any other right or remedy be at liberty to forfeit the 10% of earnest money.
4. **'That, I/We declare that I/We have not paid and will not pay any bribe to any officer of AAI for awarding this contract at any stage during its execution or at the time of payment of bills, and further if any officer of AAI asks for bribe / gratification, I will immediately report it to the Appropriate Authority in AAI'.**
5. The required earnest money as specified in clause no. 11 of additional conditions of NIT for this work has also been submitted offline.

Yours Faithfully

Date:

(Signature of the tenderer)
With rubber stamp

FORM OF BANK GUARANTEE TO SECURE A LUMP-SUM ADVANCE

(On Non-Judicial Stamp Paper)

[Refer clause no. 10B of GCC]

To
The Airports Authority India

1. In consideration of the Airports Authority India having its head office at New Delhi (hereinafter called "AAI" which expression shall unless repugnant to the subject or context include its administrators, successors and assigns) having agreed under the terms and conditions (Contract Agreement No. _____ dated _____ made between _____ * _____ and AAI in connection with the work of (hereinafter called "the said contract"), to make at the request of the Contractor a lump-sum advance of Rs. _____ (Rupees _____ only) for utilizing it for the purpose of the Contract on his furnishing a guarantee acceptable for AAI we, the Bank (hereinafter referred to as "the said Bank") and having our registered office at do hereby guarantee the due recovery by AAI of the said advance with interest thereon -as provided according to the terms and conditions of the Contract. If the said Contractor fails to utilize the said advance for the purpose of the Contract and/or the said advance together with interest thereon as aforesaid is not fully recovered by AAI we, the _____ Bank hereby unconditionally and irrevocably undertake to pay to AAI on demand and without demur to the extent of the said sum of Rs _____ (Rupees _____ only) any claim made by AAI on us for the loss or damage caused to or suffered by AAI by reason of not being able to recover in full the said sum of Rs _____ (Rupees _____ only) with interest, as aforesaid.
2. We, the _____ Bank, further agree that AAI shall be the sole judge of and as to whether the said Contractor has not utilized the said advance or any part thereof for the purpose of the Contract and the extent of loss or damage caused to or suffered by AAI on account of the said advance together with interest not being recovered in full and the decision of AAI that the said Contractor has not utilized the said advance or any part thereof for the purpose of the Contract and as to the amount or amounts loss or damage caused to or suffered by AAI shall be final and binding on us.
3. We, the said Bank, further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contract and till the said advance with interest has been fully recovered and its claims satisfied or discharged and till the Accepting Authority of the contract certifies that the said advance with interest has been fully recovered from the said Contractor, and accordingly on discharges this guarantee subject, however, that AAI shall have no claim under this Guarantee after 90 (Ninety) days from the date of completion of the said contract, i.e., _____ (date) or from the date of cancellation of the said Contract, as the case may be, unless a notice of the claim under this Guarantee has been served on the Bank before the expiry of the said period in which case the same shall be enforceable against the Bank notwithstanding the fact, that the same is enforced after the expiry of the said period.

A.A.I.

102

(C.....I.....O.....)

4. AAI shall have the fullest liberty without effecting in any way the liability of the Bank under this Guarantee or Indemnity, from time to time to vary any of the terms and conditions of the said Contract or the advance or to extend time of performance by the said Contractor or to postpone for any time and from time to time any of the powers exercisable by it against the said Contractor and either to enforce a forbear from enforcing any of the terms and conditions governing the said Contract or the advance or securities available to AAI and the said Bank shall not be released from its liability under these presents by any exercise by AAI of the liberty with reference to the matters aforesaid or by reason of time being given to the said Contractor or any other forbearance, act or omission on the part of AAI or any indulgence by AAI to the said Contractor or of any other matter or thing whatsoever after I which under the law relating to sureties would but for this provisions have the effect of so releasing the Bank from its such liability.
5. It shall not be necessary for AAI to proceed against the Contractor before proceeding against the Bank if and the Guarantee herein contained shall be enforceable against the Bank notwithstanding any security which AAI may have obtained or obtain from the Contractor shall at the time when proceedings are taken against the Bank hereunder be outstanding or unrealised.
6. We, the said Bank, lastly undertake not to revoke this Guarantee during its currency except with the previous consent of AAI in writing and agree that any change in the Constitution of the said Contractor or the said mess Bank shall not discharge our liability hereunder.
7. Address of Regional / Controlling branch of the issuing branch of Bank Guarantee is-----

In presence of:

Dated this ____ Day of _____ 200_

WITNESS

1. For and on behalf of (The Bank)
 Signature _____
2. Name & Designation _____

 Authorization No. _____
 Name & Place _____
 Bank's Seal _____

The above Guarantee is accepted by Airports Authority of India. For and on behalf of Airports Authority of India.

Signature _____

Name & Designation _____

Dated _____

Note:

***For Proprietary Concerns**

Shri _____ son of _____ resident of _____ carrying on business under the name and style of _____ at _____ (hereinafter called "the said Contractor" which expression shall unless the context requires otherwise include his heirs, executors, administrators and legal representatives).

For Partnership Concerns

1. Shri _____ son of _____ resident of _____

2. Shri _____ son of _____ resident of _____ carrying on business in co-partnership under the name and style of _____ at _____ (hereinafter collectively called "the said contractor" which expression shall unless the context requires otherwise include each of them and their respective heirs, executors administrators and legal representatives).

For Companies

M/s _____ a Company registered under the Companies Act, 1956 and having its registered office in the State of (Hereinafter called "the said Contractor" which expression shall unless the context requires otherwise include its administrators, successors and assigns).

**FORM OF BANK GUARANTEE IN LIEU OF SECURITY DEPOSIT & AMOUNT WITHHELD
AGAINST COMPENSATION FOR DELAY IN INDIVIDUAL CONTRACT**

(On Non-Judicial Stamp Paper)
[Refer clause no. 1 (A) & 2(B) of GCC]

To
The Airports Authority India

1. In consideration of the Airports Authority India having its head office at New Delhi (hereinafter called the "AAI" which expression shall unless repugnant to the subject or context include its administrators, successors and assigns) having agreed under the terms and conditions of Contract Agreement No. _____ dated _____ made between _____ and AAI in connection with the work of _____ (hereinafter called the said contract), to accept Deed of Guarantee as herein provided' for Rs. _____ (Rupees _____ only) from a Nationalized Bank in lieu of the Security deposit to be made by the contractor or in lieu of the deduction to be made from the contractor's bills, for the due fulfillment by the said Contractor of the term and conditions contained in the said Contract. We, the _____ bank (hereinafter referred to as "the said Bank" and having our registered office at _____ hereby undertake and agree to indemnify and keep indemnified AAI from time to time to the extent of Rs. _____ (Rupees _____ only) against any loss or damage, costs, charges and expenses caused to or suffered by or that may be caused to or suffered by AAI by reason of any breach or breaches by the said Contractor of any of the terms and conditions contained in the said contract and to unconditionally pay the amount claimed by AAI on demand and without demur to the extent aforesaid.

2. We, the _____ Bank, further agree that AAI shall be the sole judge of and as to whether the said Contractor has committed any breach or breaches of any of the terms and conditions of the said contract and the extent of loss, damage, costs, charges and expenses caused to or suffered by or that may be caused to or suffered by AAI on account thereof and the decision of AAI that the said Contractor has committed such breach or breaches and as to the amount or amounts of loss, damage, costs, charges and expenses caused to or suffered by or that may be caused to or suffered by AAI from time to time shall be final and binding on us.

3. We, the said Bank, further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Contracts and till all the dues of AAI under the said Contract or by virtue of any of the terms and conditions governing the said Contract have been fully paid and its claims satisfied or discharged and till the Accepting Authority of the contract certifies that the terms and conditions of the said Contract have been fully and properly carried out by the said Contractor and accordingly discharges this guarantee subject, however that AAI shall have no claim under this Guarantee after 90 (Ninety) days from the date of expiry of the Defects Liability Period as provided in the said Contract, i.e., _____ (date) or from the date of cancellation of the said Contract, as the case may be, unless a notice of the claim under this Guarantee has been served on the Bank before the expiry of the said period in which case the same shall be enforceable against the Bank notwithstanding the fact, that the same is enforced after the expiry of the said period.

4. AAI shall have the fullest liberty without affecting in any way the liability of the Bank under this Guarantee or Indemnity from time to time to vary any of the terms and conditions of the said contract or to extend time of performance by the said Contractor or to postpone for any time and from time to time any of the powers exercisable by it against the said Contractor and either to enforce or forbear from enforcing any of terms and conditions governing the said Contract or securities available to AAI and the said Bank shall not be released from its liability under these presents by any exercise by AAI of any liberty with reference to the matters aforesaid or by reason of time being given to the said Contractor or any other forbearance, act or omission on the part of AAI or any indulgence by AAI to the said Contractor or any other matter or thing whatsoever which under the law relating to sureties would but for this provisions have the effect of so releasing the Bank from its such liability.
5. It shall not be necessary for AAI to proceed against the Contractor before proceeding against the Bank and the Guarantee herein contained shall be enforceable against the Bank, notwithstanding any security which AAI may have obtained or obtain from the Contractor at the time when proceedings are taken against the Bank hereunder be outstanding or unrealized.
6. We, the said Bank, lastly undertake not to revoke this Guarantee during its currency except with the previous consent of AAI in writing and agree that any change in the Constitution of the said Contractor or the said Bank shall not discharge our liability hereunder.
7. Address of Regional / Controlling branch of the issuing branch of Bank Guarantee is-----

In presence of:

Dated this ____ Day of _____

WITNESS

1.

For and on behalf of (The Bank)

2.

Signature _____

Name & Designation _____

Authorisation No. _____

Name & Place _____

Bank's Seal _____

The above Guarantee is accepted by Airports Authority of India.

For and on behalf of Airports Authority of India.

Signature _____

Name _____

Designation _____

Dated _____

Note: ***For Proprietary Concerns**

Shri _____ son of _____ resident of _____ carrying on business under the name and style of _____ at _____ (hereinafter called "the said Contractor" which expression shall unless the context requires otherwise include his heirs, executors, administrators and legal representatives).

For Partnership Concerns

1. Shri _____ son of _____ resident of _____

2. Shri _____ son of _____ resident of _____

carrying on business in co-partnership under the name and style of _____ at _____ (hereinafter collectively called "the said contractor" which expression shall unless the context requires otherwise include each of them and their respective heirs, executors administrators and legal representatives).

For Companies

M/s _____ a company registered under the Companies Act, 1956 and having its registered office in the State of (Hereinafter called "the said Contractor" which expression shall unless the context requires otherwise include its administrators, successors and assigns).

GUARANTEE FOR SPECIALIZED WORKS
[On Non - Judicial Stamp Paper]

GUARANTEE TO BE EXECUTIVE BY CONTRACTORS FOR REMOVAL OF DEFECTS
AFTER COMPLETION IN RESPECT OF SPECIALIZED WORKS

The Agreement made this ----- day of ----- Two thousand -----
----- between ----- son of ----- of -----
----- [hereinafter called the Guarantor of the one part] and the Chairman, AAI [hereinafter called
the Authority of other part].

WHEREAS THIS agreement is supplementary to a contract [hereinafter called the Contract] dated -----
----- and made between the GUARANTORY OF THE ONE PART and the Chairman, AAI, whereby the
Contractor agrees to guarantee the Solar modules for a period of 25 years from the date of commissioning of the
project.

The material & performance warranty are given under below:

• **Warranty of Solar PV Modules:**

PV modules used in Solar power plants / systems must be warranted for their output peak watt capacity,
which should not be less than 90% at the end of 10 years and 80% at the end of 25 years.

• **Performance Warranty for other equipments / accessories (Except Solar PV Module)**

The mechanical structures, electrical works including power conditioners/ investors/ charge controllers/
maximum power point tracker units/ distribution boards/ digital meters/ switch gear/ storage batteries, cables
etc. and over all workmanship of the SPV power plants/ systems must be warranted against any
manufacturing/ design / installation defects for a minimum guaranteed period of 5 years.

AND WHEREAS THE GUARANTOR agreed to give a guarantee to the effect that the said

(a)

**Solar Photo Voltaic Panels supplied and installed shall generate output peak watt capacity, which
should not be less than 90% at the end of 10 years and 80% at the end of 25 years. (b)**

Other equipments / accessories (except PV Modules) have minimum guaranteed life of 5 years.

NOW THE GUARANTOR hereby guarantees that (a) the solar Photo voltaic Panels supplied and installed
have minimum life of 25 years (b) **Other equipment / accessories (except Solar PV Modules have
minimum life of 5 years)** to be reckoned from the date of commissioning of the project.

During the Guarantee period, the guarantor shall replace:

(a) **Solar PV module having any manufacturing defect or degradation of power generated exceeds
specified limits as defined above.**

(b) **Other equipment / accessories (except Solar PV Modules)**

(c) During this period of guarantee the guarantor shall make good all defects and in case of any

defect being found render the repair or replace the solar module(s), at sole option of AAI and satisfaction of the Engineer- in- charge at his cost and shall commence the work such rectification within 7 days from the date of issue of the notice from the Engineer-in-charge calling upon him rectify the defects failing which the work shall be got done by the department by some other contractor at the GUARANTOR's cost and risk. The decision of the Engineer-in-charge as to the cost, payable by the Guarantor should be final and binding.

- (d) That if Guarantor fails to execute repair or replace the solar module(s) & other equipments, at the Owner's sole option or commits breach there under then the Guarantor will indemnify the Principle and the successors against all loss, damage, cost, expense or otherwise which may be incurred by him by reasons of any default on the part of the GUARANTOR in performance and observance of this supplementary agreement. As to the amount of loss and / or damage and / or cost incurred by the Government the decision of the engineer-in-charge will be final and binding on the parties.
- (e) IN WITNESS WHEREOF these presents have been executed by the Obligator ----- and by ----- and for an on behalf of the Chairman, AAI on the day, month and year first above written.
- (f) SIGNED, SEALED AND delivered by OBLIGATOR in the presence of: - 1.

2.

SIGNED FOR AND ON BEHALF OF CHAIRMAN, AAI ----- IN
THE PRESENCE OF: -

1.

2.

FORM OF BANK GUARANTEE AGAINST EARNEST MONEY DEPOSIT

[Refer Clause NIT-12 at Page NIT-2 of the Notice Inviting Tender]

To

The Airports Authority India
Trivandrum Airport
Thiruvananthapuram – 695 008.

Sir,

WHEREAS, contractor (Name of Contractor) (hereinafter called the contractor) has submitted his tender dated(date) for the **“SITC of 500 KWp Grid Connected Solar Roof Top Power Plant at Trivandrum Airport.”** (Here in after called ‘the Tender’).

KNOW ALL PEOPLE by this presence that we.....(Name of Bank) having our registered office at(hereinafter called ‘The Bank’) are bound unto(SM (Engg.-E), AAI, Trivandrum Airport, Thiruvananthapuram -695 008) (hereinafter called ‘The Bid Manager’) in sum of Rs. (Rs. in words) for which payment well and truly to be made to the said Engineer-in-Charge the Bank binds itself, his successors and assigns by these presents.

SEALED with the Common Seal of the said Bank this Day of20.....

A.A.I.

(C.....I.....O.....)

THE CONDITIONS of this obligation are:

- (1) If after tender opening the Contractor withdraws, his tender during the period of validity of tender (including extended validity of tender) specified in the Form of Tender.
- (2) If the contractor having been notified of the acceptance of his tender by the Engineer-in-Charge:
 - (a) fails or refuses to execute the Form of Agreement in accordance with the instruction to contractor, if required; OR
 - (b) fails or refuses to furnish the Performance Guarantee, in accordance with the provisions of tender document and instructions to contractor; OR
 - (c) fails or refuses to start the work, in accordance with the provisions of the contract and instructions to contractor; OR
 - (d) fails or refuses to submit fresh Bank Guarantee of an equal amount of this Bank Guarantee, against Security Deposit after award of contract.

We undertake to pay to the Engineer-in-Charge up to the above amount upon receipt of his first written demand, without the Engineer-in-Charge having to substantiate his demand, provided that in his demand the Engineer-in-Charge will note that the amount claimed by him is due to him owing to the occurrence of one or any of the above conditions, specifying the occurred condition or conditions.

This Guarantee will remain in force up to and including the date*..... after the deadline for submission of tender as such deadline is stated in the instructions to contractor or as it may be extended by the Engineer-in-Charge, notice of which extension(s) to the Bank is hereby waived. Any demand in respect of this Bank Guarantee should reach the Bank not later than the above date.

DATE.....

SIGNATURE OF THE BANK
SEAL

WITNESS

(SIGNATURE, NAME AND ADDRESS)

* Date to be worked out on the basis of validity of 6 months from last date of receipt of tender.

**LETTER OF UNDERTAKING FROM THE DEPOSITOR TO BANK TO BE SUBMITTED ALONGWITH
FIXED DEPOSIT / BANK GUARANTEE TO AIRPORTS AUTHORITY OF INDIA**

(Refer Clause 31 of Notice Inviting Tender)

To,

The Branch Manager
_____ Bank

Subject : My/our Fixed Deposit/Bank Guarantee bearing No. Dated for Rs.
..... issued in favour of Airports Authority of India A/C

Sir,

The subject Fixed Deposit/Bank Guarantee is obtained from your branch for the purpose of Security/Earnest Money on account of contract awarded/to be awarded by M/s. Airports Authority of India to me/us.

I hereby authorize the Airports Authority of India in whose favour the deposit is made to encash/close the subject Fixed Deposit/Bank Guarantee before maturity/on maturity towards adjustment of dues without any reference/consent/notice from me/our side and the bank is fully discharged by making the payment to Airports Authority of India.

Signature of Depositor

Place:

Date:

RECEIPT FROM BANK

Signature with date and seal

A.A.I.

SPECIMEN PROFORMA FOR AFFIDAVIT ON MINIMUM WAGES

I,.....(Name),
aged.....years, S/o.....(Name),Proprietor/Managing Partner/Managing
Director of(Name of the agency) do hereby solemnly
affirm and state as follows;

I am competent to swear this affidavit on behalf of (Name of agency). I
state that, in the event of work awarded to our agency, the wages to be paid to the workers engaged shall not be less
than the minimum wages determined by appropriate Govt. authority from time to time.

Dated this, the..... day of monthyear.

Deponent.

Note: This affidavit is to be attested by first class Magistrate/Notary Public on non-judicial stamp
paper of Rs.100/- (Rupees One Hundred Only).

ANNEXURE - 8

(To be submitted in Non-Judicial Stamp Paper value of Rs.100/-)

DECLARATION (For MSE Units only)

I, _____ on behalf of M/s. _____ in the capacity of _____ (Position) hereby declare that

1. Our MSE Unit(s)is/are availing benefits extended by MSME , Government of India to Micro and Small Enterprises (MSEs) for the work of _____ invited vide Bid Number _____
2. Our MSE Unit(s) has/have not been awarded any work /supply under MSME benefit during the current financial year.

OR

Our MSE Unit(s) has/have been awarded work /supply for a total value of Rs. _____ (Rupees _____ only) under MSME benefits as on date and same work(s)/Supply is/are “In hand(Progress)/Incomplete” during the current financial year. Further We confirm that the value of)/Supply is/are in hand (awarded under MSME benefits) during the financial year plus estimated cost of this tender has not crossed the “Monetary Limit” mentioned in NSIC certificate.

3. Our firm is participating in this tender under “MSE unit” or “OPEN BIDDER”.

NOTE: Strike out the conditions in (2) & (3) whichever is not applicable. Decision on any discrepancy in this “DECLARATION” shall be at the discretion of AAI and shall be final and binding.

SIGNATURE WITH COMPANY SEAL

ATTESTED BY NOTARY PUBLIC

PROFORMA / CHECK LIST FORMAT TO BE SUBMITTED BY THE BIDDER ALONG WITH APPLICATION FOR SHORT LISTING

Name of work: SITC of 500 KWp Grid Connected Solar Roof Top Power Plant at Trivandrum Airport.

1	Name, Address, Organisation ID, tel/fax No. and e-mail address of the bidder	
2	Enlistment / Registration details	
3	PAN No.	
4	Service Tax registration No.	
5	Electrical Contractor's / issuing authority	
6	PF registration No./Issuing authority	
7	ESI Registration No./issuing authority	
8	Experience certificate details	
9	Work No.1	
10	Name of work	
11	Name of the organization/department where work has been executed	
12	Date of start	
13	Date of completion (stipulated)	
14	Date of completion (Actual)	
15	Completion cost	
16	Work No.2	
17	Name of work	
18	Name of the organization/department where work has been executed	
19	Date of start	
20	Date of completion (stipulated)	
21	Date of completion (Actual)	
22	Completion cost	

23	Work No.3	
24	Name of work	
25	Name of the organization/department where work has been executed	
26	Date of start	
27	Date of completion (stipulated)	
28	Date of completion (Actual)	
29	Completion cost	
30	Annual Financial Turnover	
31	Year 2014-15	
32	Year 2015-16	
33	Year 2016-17	
34	Average	
35	List of AAI Employees related to the firm	
36	Details of any other information	

Note: If any of the supporting document is submitted in any language other than English, a self attested English version shall be submitted along with respective document, however as mentioned all the documents duly self-attested shall be submitted.

Signature of contractor with seal



SPECIAL CONDITIONS OF CONTRACT

AIRPORTS AUTHORITY OF INDIA

SPECIAL CONDITIONS OF CONTRACT (SCC)

1. GENERAL:

This special condition of the contract is for providing “**SITC of 500 KWp Grid Connected Solar Roof Top Power Plant at Trivandrum Airport.**”

These special conditions of contract shall be read in conjunction with General Conditions of Contract and amendments/corrections, if there are any provisions in these Special Conditions, which are at variance with the provisions of General conditions of contract, the provisions in these special conditions, shall take precedence.

2. INSPECTION OF SITE / ADMISSION TO SITE:

2.1 For the purpose of inspection of site and relevant documents the tenderer is required to contact the concerned Engineer-in-charge of the Trivandrum Airport, who shall give reasonable facilities for inspection of the same/related drawings if any required. The tenderer shall be deemed to have satisfied himself as to the nature of the site of work, local facilities of access, availability of materials and all other matters affecting his prices for the execution and completion of work. He is required to make himself fully acquainted with the nature and scope of work.

2.2 The entire work lies in operational /Restricted Area of airport. The tenderer shall apply in writing, in advance of commencement of work, for the issue of security passes and shall submit a list of personnel concerned and shall satisfy the Engineer-in-Charge, who shall at his discretion have the right to recommend the issue of passes to control the movement of the contractor, his agents, his staff and workmen. The cost of photograph and prescribed fee (INR), if required, for the issue of the passes will be borne by the contractor. The contractor shall ensure that his men work only in areas/zones allotted to them. The entry passes shall be deposited with the Engineer-in-Charge on demand and in any case immediately after completion of work. The contractor, his staff and workmen shall observe all the rules promulgated from time to time by the Airports Authority of India, e.g. prohibition of smoking and lighting, frisking of persons on entry and exit, keeping to specified routes etc. Any person found violating the security rules laid down by the Airports Authority of India will be expelled from the area without assigning any reason whatsoever and contractor shall have no claim on this account.

3. SUFFICIENCY OF TENDER:

The tenderer shall be deemed to have satisfied himself before tendering as to the correctness and sufficiency of his tender for the works and of the rates and prices quoted as Turnkey basis in the schedule of quantities or in bills of Quantities which rates and prices shall, except and otherwise provided, cover all his obligations under the contract and all matters and things necessary for the proper completion and maintenance of the works.

4. CONTRACTOR' S REPRESENTATIVES, AGENTS & WORKMEN:

4.1 The contractor shall deploy skilled and qualified manpower preferably Indian Nationals and verify their antecedents and loyalty before employing them on the work under his direct control. He shall ensure that no person of doubtful antecedent and nationality is, in any way, associated with the work. All the persons deployed for the work shall be directly under the control of contractor.

4.2 MINIMUM WAGES, PF & ESI:

The tenderer shall be solely responsible for the payment of wages (Minimum wages as fixed by central or state govt. whichever are higher shall be applicable) and other dues to the personnel deployed by him latest by 7th of subsequent month. The contractor shall be directly responsible and indemnify the authority against all charges, dues, claims etc. arising out of the disputes relating to the dues and personal deployed by him.

The contractor shall monthly submit PF (Provident fund) & ESI (Employee's state insurance)

challans to AAI as proof for PF & ESI contribution for labour deployed by him. Non submission of PF

& ESI challans and minimum wage certificate before its due date but not later than 21st of every month by the contractor, shall be liable for action against the contractor and also suitable penalty shall be levied as deemed fit.

Contractor shall take care of labour regulations applicable in India and is required to follow all the guidelines prescribed by concerned authorities i.e. Regional Labour Commissioner/Central Advisory contract labour board etc.

The contractor shall intimate his PF account no. allotted by regional PF commissioner and ESI registration no. after award of work and shall continue to have valid PF account no. and ESI registration till actual completion of the contract.

5. STORES, MATERIALS & LABOURS:

All the stores and materials required for the satisfactory completion of the work shall be arranged by the contractor from his own sources/open market. routine test certificates to be submitted. No claim whatsoever shall be entertained by the Authority on account of delay in either providing these materials or non-availability of these materials in the market. AAI shall provide only open space for storage of material, if required.

6. SITE FOR PLANTS, EQUIPMENT AND STACKING OF MATERIALS:

The contractor shall stack properly all the materials at the site of work strictly as per the instructions of the Engineer-In-Charge keeping in view security & operational requirements as laid down by Director General of Civil Aviation, Bureau of Civil Aviation security, Airports Authority of India and Government of India.

7 DESIGN & DRAWINGS

The successful bidder should visit the site and submit DPR after shadow analysis, detailed site survey of installation along with the bill of materials to Engineer-In-Charge at site and finalize the quantities as per the site conditions for successful completion of the project in respect of technical specifications & conditions.

The DPR & drawings for complete systems shall be submitted within 15 days of placement of work order. The contractor shall not proceed with the installation works until the drawings are approved.

Approval of DPR/ Drawings shall not absolve the contractor of any of his obligations to meet the requirements of specifications under this contract.

8 CO-ORDINATION:

The contractor shall co-operate with Airports Authority of India's other contractors, compare plans, specifications and time schedules and so arrange his work that there will be no interference. The contractor shall forward to the Engineer-In-Charge of the Trivandrum Airport all correspondence and drawings so exchanged. Failure to check plans and conditions will render the contractor responsible for bearing the cost of any subsequent change found necessary.

9 THIRD PARTY INSURANCE:

Before Commencing the execution of works the contractor (but without limiting his obligations and responsibilities) shall insure against all damage, loss or injury which may occur to any property (including that of the employer) or to any person, including any employee of the employer by or arising out of the execution of the works or temporary work or in carrying out of the contract. This insurance cover shall be for the period up to system acceptance by AAI upon issue of completion certificate.

10 LAND FOR LABOUR / STAFF CAMPS:

No labour /staff camps will be permitted within the Airport limits and the contractor shall make the necessary arrangements at his own cost for their camps.

11 POWER SUPPLY - For Construction Purposes:

Airports Authority of India can extend an electric supply outlet (At 415 V, A.C, 3 phase, 4 wire 50 HZ) for works to the Firm at one point. AAI will provide electrical connection if feasible at site during execution of the work on chargeable basis. The required energy meter and cables shall be provided by the contractor. The Authority does not guarantee continuity, steadiness of supply and/or reliability of voltage level and no compensation whatsoever shall be allowed for supply becoming intermittent or for breakdown in the

system. The contractor may make his own arrangement for stable power supply if required by him.

12 WATER SUPPLY FOR CONSTRUCTION PURPOSE:

AAI will not be responsible for the supply of water to the Contractor for execution of work. The Contractor shall make his own arrangements for temporary connections required, if any, and make necessary payments to the Departments concerned. No amount shall be payable by AAI on this account. However, if excess water is available AAI will provide water supply at one point on chargeable basis.

13 STANDARD FOR WORKMANSHIP:

To determine the acceptable standard of workmanship for site work for which no factory inspection is carried out, the contractor shall execute a portion of the items of work as a sample for approval of the Engineer- In-Charge before taking up the actual execution of the particular item of work. These samples on approval of the Engineer-In-Charge shall be guiding samples for execution of the particular items of work. Work not conforming to approved samples shall be rejected.

14 SITE CLEARANCE:

14.1 Site Clearance during execution:

In the course of carrying out the contract, the contractor shall keep the site reasonably free from all unnecessary obstruction, store or remove any surplus materials, clear away any wreckage, rubbish or temporary works from the site, and remove any contractor's equipment no longer required for execution of the contract.

14.2 Clearance of Site after Completion.

After completion of all parts of the facilities, the contractor shall clear away and remove all wreckage, rubbish and debris of any kind from the site, and shall leave the site and facilities in a clean and safe condition.

Unless otherwise specified in the Contract, upon Completion of the Facilities, the Contractor shall remove from the site all Equipment brought by the contractor on to the site and any surplus materials remaining thereon with permits / gate pass to be issued by the Engineer-in-charge.

15. BYE-LAWS:

The contractor shall comply with all the bye-laws and regulations of local and statutory authorities having jurisdiction over the works and shall be responsible for payment of all fees and other charges and the giving and receiving of all necessary notices and keep the Engineer-In-Charge informed of the said compliance notice issued and received.

The Contractor shall indemnify AAI against all claims in respect of royalties, patent rights, design trademarks of name or other protected rights in respect of any plant, machine, work or materials used for or in connection with the work or temporary works and from and against all claims, demands proceedings, costs, charges and expenses whatsoever in respect of or in relation thereto. The Contractor shall defend all actions arising from such claims and shall himself and every sort that may be legally incurred in respect thereof

PRECAUTIONS:

- 16.1 The contractor shall provide and maintain at its own expense all lighting, fencing, watch & ward when and where necessary for the proper execution and the protection of the facilities, or for the safety of the owners and occupiers of adjacent property and for the safety of the public.
- 16.2 The employer and the contractor shall establish site regulations setting out the rules to be observed in the execution of the contract at the site and shall comply there with. The contractor shall prepare and submit to the Engineer-in-charge of the Trivandrum airport for proposed site regulations for approval.
- 16.3 Such site regulations shall include, but shall not be limited to, rules in respect of Security, safety of the Facilities, gate control, sanitation, medical care, and fire prevention.
- 16.4 It shall be the responsibility of the firm to issue all safety devices to the persons engaged in handling the Equipments, storage, erection, installation, testing and commissioning.
- 16.5 When the contractor's equipments or personnel require to cross-areas, which are not closed to aircraft operations, the contractor shall provide suitable means to be approved by Engineer in Charge at locations designed by him to relay signals from airport traffic control to personnel wishing to cross such areas.
- 16.6 It will be the responsibility of the contractor to see that air traffic control tower signals are instantly and rigidly observed and acted upon by all personnel employed by the contractor on the job.
- 16.7 Every transport vehicle and the driver thereon shall carry a permit issued by the Airport Director and shall be produced on demand by the Airport Director or his authorized agent. All vehicles entering the Airport limits shall follow the routes prescribed by the Airport Director for, entering the area and shall display red flags on top. No vehicle shall be allowed between sunset and sunrise and also during day when visibility is 500 meters or less within the Airport limits where motor vehicle act does not apply.
- 16.8 With regard to construction safety measure, the contractor shall adhere to various Indian Standard codes of Practice, requirements of the Provincial Government and local municipal authorities wherever the provisions of the latter two agencies shall be more stringent than the provision of the former. Where these codes do not exist, the contractor shall adhere to such safety measures as directed by the Engineer-in-charge.

- 16.9 The contractor shall during construction provide barricades at his own cost as per Specifications prescribed by the Engineer-in-charge to segregate the working area to ensure safety of all concerned.
- 16.10 The contractor shall be responsible for any damage resulting from his operations, to existing airport fixture such as underground cables, contact lights, hard surface areas, water mains, other operational installations, Airport roads, etc. The contractor shall restore, replace or repair any such damage to the complete satisfaction of the Engineer-in-charge. The Engineer-In-Charge will inform the contractor as to the location of such underground cables, pipes, ducts, etc. and in this regard the Engineer-in-charge should be advised in sufficient time ahead as to what areas the contractor may be operating on.
- 16.11 If on handing over the site or at any time thereafter during the execution of the works the contractor considers that any drawing or information necessary for the execution of the work has not been provided he has to inform the Engineer-in-charge of the respective airport in writing giving details.

17 RESPONSIBILITY FOR COMPLETENESS:

- 17.1 Any fittings or accessories may not be mentioned in the specification but which are usual or necessary, are to be provided by the Contractor without extra charge so as to make the equipment complete in all details to meet the specifications.
- 17.2 In all cases where the contractor provides for tests on site, the firm, except where otherwise specified shall provide, free of charge, such labour, materials, fuels, equipment, apparatus and instruments as may be required from time to time and as may reasonably be demanded, efficiently to carry out such tests of the equipment, materials or workmanship in accordance with the contract.
- 17.3 Any supplies which have not been specifically mentioned in this contract but which are necessary for the design, engineering manufacturing, supply & performance or completion of the project shall be provided by the bidder without any extra cost and within the time schedule for efficient and smooth operation & maintenance of the SPV plant.

18 SUPERVISION:

The contractor shall provide adequate supervision at all stages of the work and examine all components for accuracy before execution is commenced. He shall also provide facilities and space satisfactory to the Inspector/Purchaser for laying out for his inspection any component to be used in the work at such stages of execution, as may be directed.

19 INABILITY TO PERFORM CONTRACT:

Should the Contractor's preparation of the commencement of the work, or any portion of it or his subsequent rate of progress, be from any cause whatsoever, so slow that in the opinion of the Purchaser, the Contractor will be unable to complete the work or any portion thereof as agreed upon or should he not have the work ready for delivery in conformity with the contract or should he neglect to comply with any directions given to him by the purchaser or in any respect fail to perform

the Contract at the end, in which case the contractor shall be liable for any expenses, loss or damage which the Purchaser may incur or sustain by reason of or in connection with the Contractor's default

20 LIABILITY UNDER THE WORKMEN'S COMPENSATION ACT:

- 20.1 The contractor shall at all time indemnify the Purchaser against any claims which may be made under the Workmen's Compensation Act 1923, or any statutory modification thereof or otherwise for or in respect of any damages or compensation payable in consequence of any accident or injury sustained by any workman or other person in the employment of the contractor.
- 20.2 The insurance cover shall be valid up to the completion of main work and during operations period. A copy of insurance cover shall be submitted before physical start of work.

21 REGULATIONS OF LOCAL AUTHORITY:

- 21.1 The Purchaser shall, throughout the continuance of the Contract, and in respect of all matters arising in the performance thereof serve all notices and obtain consents, way leaves, approvals and permissions required in connection with the Regulations and Bye-laws of the local or other authority which shall be applicable to the works.
- 21.2 Any work of an electrical nature to be executed under the Contract, shall comply with the provisions of the Indian Electricity Act, 1910 and the rules there under for the time being in force.

22 STATUTORY APPROVALS

It is responsibility of the contractor to get initial and final approvals / NOC for systems like electrical, etc. from the concerned departments /local bodies. The contractor shall also do all the liaison works with the departments for getting the approvals. All the incidental expenses in connection with the above shall be borne by the contractor with no extra cost to AAI. For all approvals / NOC, statutory fees shall be paid by the contractor.

- i. All the equipment to be supplied and works to be executed should conform to the Electrical Inspectorate / CEA Standards including all protection and metering accessories.
- ii. Necessary scheme approval (NOC) for various facilities, if any, from the Electrical Inspectorate/CEA/ KSEB immediately after the award of work.
- iii. All testing/calibration, etc. are to be carried out as per the requirements of Tender Document, statutory authorities & the certificates shall be submitted to AAI also.
- iv. The contractor shall be responsible for any damage resulting from his negligence to existing roof top / facilities /installations and will restore, replace or repair any such damages at his cost to the complete satisfaction of AAI.
- v. On completion of work, the necessary safety / energization certificate from KSEB/ CEA by submitting necessary completion certificates, drawings, equipment details, load details, test results, etc. before energization.

- vi. It is the responsibility of the contractor to obtain the applicable subsidy towards installation of roof top solar power plant. The rate quoted shall be net considering the subsidy.
- vii. Contractor shall obtain clearance from AAI, Civil department Trivandrum to install the PV modules including structural adequacy.

23 WORK AT NIGHTS AND ON HOLIDAYS:

Unless otherwise provided in the contract, normally no work shall be carried out during the night and on public holidays of the country where the site is located without prior written consent of the employer, except where work is necessary or required to ensure safety of the facilities or the protection of life, or to prevent loss or damage to property, when the contractor shall immediately advise the Engineer-in charge of the Trivandrum airport or his authorized representative, provided that provisions of this clause shall not apply to any work which is customarily carried out by rotary or double shifts or round the clock as required. If required for any valid reasons AAI may consider and permit the firm to carry out the works in odd hours or in restricted hours also subject to the condition that no additional payment will be paid by AAI to the firm for such works and such works does not cause and disturbance to Airport Operations.

24 WARRANTEES AND GUARANTEES:

The Bidder shall warrant that the goods supplied under this contract are new, unused, of the most recent or latest technology and incorporate all recent improvements in design and materials. The bidder shall provide warrantee covering the rectification of any and all defects in the design of equipment, materials and workmanship including spare parts for a period of 5 years from the date of commissioning, however the guarantee of Solar Module shall be 25 years as per Guarantee Bond (**Annexure-4**).

The successful bidder has to transfer all the Guarantees / Warrantees of the different components to the Owner of the project. The responsibility of operation of Warrantee and Guarantee clauses and Claims/ Settlement of issues arising out of said clauses shall be responsibility of the Successful bidder and AAI will not be responsible in any way for any claims whatsoever on account of the above.

25 TESTING / INSPECTION OF MATERIALS

AAI reserves the right to inspect the materials at factory before dispatch. If inspection of equipment at the factory is to be done, 15 days prior intimation should be given in advance. All arrangements for conducting the inspection/testing at the factory shall be the responsibility of the contractor.

The traveling and daily allowance for the 1st inspection at factory will be borne by AAI. In case the material/ test is not ready at factory or the test fails during the 1st inspection, the TA/DA for the AAI staff for the 2nd inspection shall be borne by the contractor.

For visual /destructive tests of materials, the Contractor shall provide samples of all the materials free of cost well in advance.

All the materials to be used in and on every part of the works shall be subjected, from time to time, to such tests as AAI may direct. Such tests shall be performed at the expenses of the Contractor. The samples for tests shall be in all cases selected by AAI. If at any time, any material so tested, fails to meet the acceptance criteria, the same shall be removed from the site of works and other materials substituted. But in the absence of any specified test/acceptance criteria, the decision of AAI shall be final and binding as to whether the said materials shall be accepted or rejected.

The Contractor shall produce on demand from AAI, the necessary test certificates certifying that the materials conform to the technical specifications. However, this clause will not apply to routine testing of materials at the site laboratory of the Contractor.

CTE may inspect the work during execution or after completion of work. During inspection any material / equipment may be sent to test lab the fee payable for testing material / equipment shall be paid by the contractor. The fee shall be reimbursed to the contractor if the material / equipment passed the test required, however no fee shall reimbursed to the contractor if the material / equipment fails the test.

26 TYPE AND QUALITY OF MATERIALS AND WORKMANSHIP:

The design, engineering, manufacture, supply, installation, testing and performance of the equipment shall be in accordance with latest appropriate IEC/Indian Standards as detailed in the (Technical specifications) of the bid document. **Where appropriate Indian Standards and Codes are not available, other suitable standards and codes/ specifications as provided by the MNRE shall be applicable.**

26.1 The specifications of the components should meet the technical specifications mentioned in Section Technical specification.

26.2 Any supplies which have not been specifically mentioned in this Contract but which are necessary for the design, engineering, manufacture, supply & performance or completeness of the project shall be provided by the Bidder without any extra cost and within the time schedule for efficient and smooth operation and maintenance of the SPV plant.

27 COMPREHENSIVE MAINTENANCE:

a. The bidder shall be responsible for comprehensive maintenance of roof top Solar PV system for a period of 5 years including first 2 years warranty period, during which AAI & MNRE authorized agency will monitor the project for effective performance in line with conditions specified elsewhere in the bid document.

- b. During this period, the bidder shall be responsible for supply of all spare parts as required from time to time for scheduled and preventive maintenance, major overhauling of the plant, replacement of defective PV modules, inverters, cards, PCU's etc.
- c. Bidder shall depute man power of skilled & unskilled during day time on all days i/c Sunday & Holiday for necessary monitoring and maintaining all running / failure log sheets of operation/working of the system. The skilled man power shall be minimum qualified diploma technician having experience in solar supervision maintenance work. There shall be at least one supervisor (diploma holder in Engineering) and two unskilled work men deployed for the CMC work.
- d. The man power has to report to the AAI site in-charge and execute the duties as assigned to him.
- e. The bidder has to carry out the maintenance of the installation as well as cleaning of the panels and other maintenance activities as per AAI requirements and standard maintenance practices.
- f. AAI will be empowered to impose necessary penalty as decided if the man power is not available as per the site requirement.
- g. Clause 20B of GCC shall be applicable for maintenance portion of work only.

28 METERING AND GRID CONNECTIVITY:

Metering and grid connectivity of the Roof Top Mounted solar PV system under this scheme would be the responsibility of the Bidder in accordance with the prevailing guidelines of the concerned KSEB or CEA (if available by the time of implementation). AAI could facilitate connectivity in the form of letters & meetings, however the entire responsibility lies with bidder only.

29. PRICES

- The rate quoted shall be inclusive of all taxes & levies excluding **service tax**.
- The service tax component shall be quoted separately in the price bid.
- Fee(s) payable for obtaining statutory license / approval etc. from concerned Department for installing and commissioning & power evacuation, CEA approval etc. shall be contractor's responsibility.
- AAI does not give any concessional forms/ certificates/ permits towards any taxes, duties & other levies like sales tax, road taxes/ permits, octroi etc.

30 PLANT PERFORMANCE EVALUATION:

The successful bidder shall be required to meet minimum guaranteed generation with Performance Ratio (PR) at the time of commissioning and related Capacity Utilization Factor (CUF) as per the GHI levels of the location during the CMC period. PR should be shown minimum of 75% at the time of inspection for initial commissioning acceptance to qualify for release of 20% payment as per payment terms.

Minimum CUF of 15% should be maintained for a period of 05 years for release of balance payment as specified in the payment terms of the contract. The bidder should send the periodic plant output details to AAI/ MNRE authorized agency for ensuring the CUF. The PR will be measured at Inverter output level during peak radiation conditions.

31 PROGRESS REPORT:

The bidder shall submit the progress report monthly to AAI/ MNRE authorized agency in prescribed Proforma of MNRE. AAI/ MNRE authorized agency will have the right to depute his/their representatives to ascertain the progress of contract at the premises of works of the bidder.

32 PROJECT INSPECTION:

32.1 The project progress will be monitored by AAI/MNRE authorized agency and the projects will be inspected for quality at any time during commissioning or after the completion of the project either by officer(s) from AAI or any other MNRE authorized agency/ experts.

32.2 AAI/ MNRE authorized agency may depute a technical person(s) from its list of empanelled experts for inspection, Third party verification, monitoring of system installed to oversee, the implementation as per required standards and also to visit the manufactures facilities to check the quality of products as well as to visit the system integrators to assess their technical capabilities as and when required. The site should be available for inspection/ verification

33 USER ID FOR UPDATING THE PROJECT PROGRESS ON BI-WEEKLY BASIS:

If required, Successful bidder shall be provided Password and User id by AAI/ MNRE authorized agency for updating the project progress on by weekly basis. Successful bidder should update the info as per the requirement of the software tool. Non updating of the progress shall be considered as no progress and shall attract punitive actions as per the relevant provision of the Contract. However, the decision of Engineer –in – charge shall be final in this regard.

34 COMMISSIONING / COMPLETION CERTIFICATE:

When the Successful bidder fulfils his obligation under the Contract, he shall be eligible to apply for Completion Certificate. The Engineer-in-Charge shall normally issue to the Successful bidder the Completion Certificate within one month after receiving any application therefore from the Successful bidder after verifying from the completion documents and satisfying himself that the Work has been completed in accordance with and as set out in Contract documents.

35 COMPLETION OF PROJECT

- (i) 05 months for Supply Installation Testing & Commissioning (SITC) of 500 KWp Grid Connected Solar PV Project.
- (ii) 05 year CMC from the successful completion of the work as per (i) above.

36 PAYMENTS TERMS:

AAI shall make payment to the agency in the manner specified below:

- i. 60% of contract value on supply of materials required for the subject work at site in good condition (pro-rata payment subject to finalization of bill of quantities (BOQ) & rate of individual item) and approval by AAI.
- ii. 30% on completion of installation, testing & commissioning of grid connected Solar PV plant and arranging/ obtaining all necessary certificates, clearance & approvals from concerned authorities i.e. MNRE authorized agencies/ 3rd party commissioning agency if any.
- iii. 5% on successful completion of 1st year of the comprehensive warranty period.
- iv. 5% on successful completion of 2nd year of the comprehensive warranty period.
- v. The SD will not be released if CUF found less than 15% during CMC period of 05 years and the performance ratio is not maintained as per tender conditions.

All the payment shall be released by the AGM Engg.(E) / SM Engg.(E), Airports Authority of India, Trivandrum Airport, Trivandrum.

37 DOCUMENT SUBMISSION FOR ISSUE OF COMMISSIONING/ COMPLETION CERTIFICATE/ SUBSIDY:

Airports Authority of India has registered for subsidy with MNRE under 'National Clean Energy Funds from MNRE'. The agency shall prepare requisite project report (please refer MNRE website www.mnre.gov.in) for submission to MNRE for availing subsidy & allow MNRE representative for inspection/ testing of the Solar plant as per their requirement. The agency shall ensure that Solar PV Plant installed meets MNRE technical requirements so that AAI can avail subsidy from MNRE, failing which corresponding subsidy amount shall be withheld from the payment till rectification of the same by the agency. If not rectified the amount will be forfeited.

For the purpose of Clause 34 above the following documents will be deemed to form the completion documents:

- a. Checklist for inspection of Roof Top SPV power plants as per MNRE format with up to date amendment.

- b. Project completion report from successful bidder as per MNRE format with up to date amendment
- c. Project completion/satisfaction certificate from MNRE authorized agency.

38 FINAL DECISION AND FINAL CERTIFICATE:

Upon completion of 05years of CMC and subject to the Engineer-in- Charge being satisfied, the Engineer-in-Charge shall (without prejudice to the rights of the MNRE authorized agency to retain the provisions of relevant Clause hereof) otherwise give a certificate herein referred to as the Final Certificate to that effect and the Successful bidder shall not be considered to have fulfilled the whole of his obligations under Contract until Final Certificate shall have been given by the Engineer-in-Charge notwithstanding any previous entry upon the Work and taking possession, working or using of the same or any part thereof by the AAI.

39 OPERATION OF THE SYSTEM DURING WEEKENDS AND GENERAL HOLIDAYS AND CALCULATION OF CUF:

During grid failure, the SPV system stops generating. Any instances of grid failure need to be mentioned in the monthly report and those instances will be finalized considering data from SCADA/ AAI data logger. Otherwise the deemed generation for the given time of grid failure or for the period for which AAI can't evacuate the generation then that will be calculated by calculating average generation over the previous 12 months during the first 12 months of contract otherwise as the average since commissioning of the system. Then this will be excluded in calculation of CUF.

40 TAX EXEMPTIONS:

Price bids are invited inclusive of Taxes and duties. However, Tax exemptions including certificates of any sort, if available may be dealt with the concerned Dep't of Govt. of India by the bidder. AAI in no case will be responsible for providing any tax exemptions certificates to the bidder.

41 LANGUAGE:

All documents, drawings, instructions, design data, calculations, operation, maintenance and safety manuals, reports, labels and any other date shall be in English Language. The contract agreement and all correspondence between the AAI and the bidder shall be in English language.

42. WATER PIPING SYSTEM FOR CLEANING OF MODULES:

- (i) Bidder has to make arrangement for water piping system using High Density PVC pipes for cleaning of solar modules. This water piping system shall be designed for minimum safe working pressure by providing suitable watering system.
- (ii) The water piping system should have adequate number of taps between the PV array, valves.

43. OTHER CONDITIONS:

- 43.1 The Single point location of the plant monitoring system (SCADA) to be ear marked in the drawing by considering the feasibility to provide broadband connectivity. Required broad band connectivity for data logging/SCADA shall be provided by AAI for 25 years or till the life of the plant. Necessary hardware and software shall be supplied by the firm.
- 43.2 The Successful bidder shall not transfer, assign or sublet the work under this contract or any substantial part thereof to any other party without the prior consent of AAI in writing.
- 43.3 The Successful bidder or its subcontractors shall not display the photographs of the work and not take advantage through publicity of the work without written permission of AAI.
- 43.4 The Successful bidder or its subcontractors shall not make any other use of any of the documents or information of this contract, except for the purpose of performing the contract.
- 43.5 AAI will not be bound by any Power of Attorney granted/ issued by the Successful bidder or its subcontractors or by any change in the composition of the firm made during or subsequent to the execution of the contract. However recognition to such Power of Attorney and change (if any) may be given by AAI after obtaining proper legal advice, the cost of which will be chargeable to the Successful bidder concerned.

44 TRAINING OF AAI ENGINEERS AND STAFF:

After completion of the ITC, firm shall give AAI officials/staff (maximum ten personnel) onsite training free of cost for a period of 02 weeks failing which Rs. 50000/- recovery shall be made. The training shall be for the following topics for effective use of the system. The contractor shall provide training material to the staff prior to the commencement of the training.

a. Training on Operation:

- i) System description including electrical, electronic, allied systems and their functions.
- ii) Systems / Sub systems operating procedures.
- iii) System operation characteristics.
- iv) System limitations.
- v) On-site system operation.
- vi) Testing & calibration.

b. Training on Maintenance:

- i) System description including electrical, electronic system, sub-system and their functions.
- ii) Description and procedure for system and component, inspection.
- iii) System and component trouble shooting ;

On completion of works, the contractor shall submit four sets of "As- Built" drawings, one set in CAD version in CD, 02 sets of manuals, layout & drawings, troubleshooting chart etc. as required by the Engineer in charge before submission of final bill and any other drawing relevant to the system as required by the Engineer-in-charge, failing which Rs. 50,000/- recovery shall be made.



TECHNICAL SPECIFICATIONS

AIRPORTS AUTHORITY OF INDIA

TECHNICAL SPECIFICATIONS

The proposed projects shall be commissioned as per the technical specifications given below. Any shortcomings will lead to withholding of payment to agency full or part as decided by competent authority. The decision of Competent Authority's will be final and binding on the bidder.

1. DEFINITION

A Grid Tied Solar Roof Top Mounted Photo Voltaic (SPV) power plant consists of SPV array, Module Mounting Structure, Power Conditioning Unit (PCU) consisting of Maximum Power Point Tracker (MPPT), Inverter, and Controls & Protections, interconnect cables and switches. PV Array is mounted on a suitable structure. Grid tied SPV system is without battery and should be designed with necessary features to supplement the grid power during day time. Components and parts used in the SPV power plants including the PV modules, metallic structures, cables, junction box, switches, PCUs etc., should conform to the BIS or IEC or international specifications, wherever such specifications are available and applicable.

Solar PV system shall consist of following equipments/components.

- Solar PV modules consisting of required number of crystalline PV modules.
- Grid interactive Power Conditioning Unit with Remote Monitoring System
- Mounting structures
- Junction Boxes.
- Earthing and lightning protections.
- IR/UV protected PVC Cables, pipes and accessories

1.1 SOLAR PHOTOVOLTAIC MODULES:

1.1.1 The PV modules used should be made in India.

1.1.2 The PV modules used must qualify to the latest edition of IEC PV module qualification test or equivalent BIS standards Crystalline Silicon Solar Cell Modules IEC 61215/IS14286. In addition, the modules must conform to IEC 61730 Part-1- requirements for construction & Part 2 – requirements for testing, for safety qualification or equivalent IS.

- a) PV modules to be used in a highly corrosive atmosphere throughout their lifetime of 25 years, they must qualify to IEC 61701/IS 61701.
- b) The total solar PV array capacity should not be less than allocated capacity (kWp) and should comprise of solar crystalline modules of minimum 300 Wp and above wattage. Module capacity less than 300 watts shall not be accepted.
- c) Protective devices of PV module at string level are surge protection devices & Low voltage drop bypass diodes at module level shall be provided.
- d) PV modules must be tested and approved by one of the IEC authorized test centers.

- e) The module frame shall be made of corrosion resistant materials, preferably having anodized aluminium.
- f) The bidder shall carefully design & accommodate requisite numbers of the modules to achieve the rated power in his bid. AAI shall allow only minor changes at the time of execution.
- g) Other general requirement for the PV modules and subsystems shall be the Following:
 - I. The rated output power of any supplied module shall have tolerance of +/-3%.
 - II. The peak-power point voltage and the peak-power point current of any supplied module and / or any module string (series connected modules) shall not vary by more than 2 (two) percent from the respective arithmetic means for all modules and/or for all module strings, as the case may be.
 - III. The module shall be provided with a junction box with either provision of external screw terminal connection or sealed type and with arrangement for provision of by-pass diode. The box shall have hinged, weather proof lid with captive screws and cable gland entry points or may be of sealed type and IP-65 rated.
 - IV. I-V curves at STC (Standard Test Condition) should be provided by bidder.

1.1.3 Modules deployed must use a RF identification tag. The following information must be mentioned in the RFID used on each modules (This can be inside or outside the laminate, but must be able to withstand harsh environmental conditions).

- a) Name of the manufacturer of the PV module. b) Name of the manufacturer of Solar Cells.
- c) Month & year of the manufacture (separate for solar cells and modules). d) Country of origin (separately for solar cells and module).
- e) I-V curve for the module Wattage, Im, Vm and FF for the module. f) Unique Serial No and Model No of the module.
- g) Date and year of obtaining IEC PV module qualification certificate. h) Name of the test lab issuing IEC certificate.
- i) Other relevant information on traceability of solar cells and module as per ISO 9001 and ISO 14001.

1.1.4 Warranties:

a) **Material Warranty:**

- (i) Material Warranty is defined as: The manufacturer should warrant the Solar Module(s) to be free from the defects and/or failures specified below for a period not less than **five (05)** years from the date of commissioning.
- (ii) Defects and/or failures due to manufacturing
- (iii) Defects and/or failures due to quality of materials
- (iv) Non conformity to specifications due to faulty manufacturing and/or inspection processes. If the solar Module(s) fails to conform to this warranty, the manufacturer will repair or replace the solar module(s), at his own cost.

- b) **Performance Warranty:**
- (i) The predicted electrical degradation of power generated not exceeding 20% of the minimum rated power over the **25 year** period and not more than 10% after **10 years** period of the full rated original output.

2. ARRAY STRUCTURE

- a) Hot dip galvanized MS mounting structures to be used for mounting the modules/ panels/arrays. Each structure should have angle of inclination as per the site conditions to take maximum insolation. However to accommodate more capacity the angle inclination may be reduced until the plant meets the specified performance ratio requirements.
- b) The Mounting structure shall be so designed to withstand the speed for the wind zone of the location where a PV system is proposed to be installed (Trivandrum -wind speed of 70 km/ hour). It may be ensured that the design has been certified by a recognized Institution in this regard and submit wind loading calculation sheet to AAI. Suitable fastening arrangement such as grouting and calming should be provided to secure the installation against the specific wind speed.
- c) The mounting structure steel shall be as per latest IS 2062: 1992 and galvanization of the mounting structure shall be in compliance of latest IS 4759.
- d) Structural material shall be corrosion resistant and electrolytically compatible with the materials used in the module frame, its fasteners, nuts and bolts. Aluminium structures also can be used which can withstand the wind speed of respective wind zone. Necessary protection towards rusting need to be provided either by coating or anodization.
- e) The fasteners used should be made up of stainless steel. The structures shall be designed to allow easy replacement of any module. The array structure shall be so designed that it will occupy minimum space without sacrificing the output from the SPV panels.
- f) PV array shall be installed in roof area free from any obstruction and/or shadow.
- g) PV array shall be installed in such a way to minimize effects of shadows due to adjacent PV panel rows.
- h) Adequate spacing shall be provided between two panel frames and rows of panels to facilitate personnel protection, ease of installation, replacement, cleaning of panels and electrical maintenance.
- i) Each PV panel structure shall incorporate one bird repellent spike at a level higher than the panel upper edge. The location of the spike should be selected for minimum shadow effect.
- j) PV modules shall be secured to support structure using screw fasteners. Screw fasteners shall use existing mounting holes provided by module manufacturer. No additional holes shall be drilled on module frames. Module fasteners/clamps shall be adequately treated to resist corrosion.

3. JUNCTION BOXES (JBs)

- a) The junction boxes are to be provided in the PV array for termination of connecting cables.
The J. Boxes (JBs) shall be made of GRP/FRP/Powder Coated Aluminium /cast aluminium alloy with full dust, water & vermin proof arrangement. All wires/cables must be terminated through cable lugs. The JB's shall be such that input & output termination can be made through suitable cable glands.
- b) Copper bus bars/terminal blocks housed in the junction box with suitable termination threads conforming to IP65 standard and IEC 62208 Hinged door with EPDM rubber gasket to prevent water entry. Single compression cable glands. Provision of earthings. It should be placed at 5 feet height or above for ease of accessibility.
- c) Each Junction Box shall have High quality Suitable capacity Metal Oxide Varistors (MOVs) / surge arrestors, suitable Reverse Blocking Diodes. The Junction Boxes shall have suitable arrangement monitoring and disconnection for each of the groups.
- d) Suitable markings shall be provided on the bus bar for easy identification and the cable ferrules must be fitted at the cable termination points for identification.

4. DC DISTRIBUTION BOARD:

- a) DC Distribution panel to receive the DC output from the array field.
- b) DC DPBs shall have sheet enclosure of dust & vermin proof conform to IP 65 protection.
The bus bars are made of copper of desired size. Suitable capacity MCBs/MCCB shall be provided for controlling the DC power output to the PCU along with necessary surge arrestors.

5. AC DISTRIBUTION PANEL BOARD:

- a) AC Distribution Panel Board (DPB) shall control the AC power from PCU/ inverter, and should have necessary surge arrestors. Interconnection from ACDB to mains at LT Bus bar while in grid tied mode.
- b) All switches and the circuit breakers, connectors should conform to IEC 60947, part I, II and III/ IS60947 part I, II and III.
- c) The changeover switches, cabling work should be undertaken by the bidder as part of the project.
- d) All the Panel's shall be metal clad, totally enclosed, rigid, floor mounted/wall mounted, air - insulated, cubical type suitable for operation on three phase / single phase, 415 or 230 volts, 50 Hz, with all protective devices.
- e) The panels shall be designed for minimum expected ambient temperature of 45 degree Celsius, 80% humidity and dusty weather.

- f All indoor panels will have protection of IP54 or better. All outdoor panels will have protection of IP65 or better.
- g Should conform to Indian Electricity Act and rules (till last amendment).
- h All the 415 AC or 230 volts devices / equipment like bus support insulators, circuit breakers, SPDs, VTs etc., mounted inside the switchgear shall be suitable for continuous operation and satisfactory performance under the following supply conditions:

Variation in supply voltage	+/- 10 %
Variation in supply frequency	+/- 3 Hz

6. PCU/ARRAY SIZE RATIO:

- a) The combined wattage of all inverters should not be less than rated capacity of power plant under STC.
- b) Maximum power point tracker shall be integrated in the PCU/inverter to maximize energy drawn from the array.

7. PCU/ Inverter:

As SPV array produce direct current electricity, it is necessary to convert this direct current into alternating current and adjust the voltage levels to match the grid voltage. Conversion shall be achieved using an electronic Inverter and the associated control and protection devices. All these components of the system are termed the “Power Conditioning Unit (PCU)”. In addition, the PCU shall also house MPPT (Maximum Power Point Tracker), an interface between Solar PV array & the Inverter, to the power conditioning unit/inverter should also be DG set interactive. If necessary. Inverter output should be compatible with the grid frequency. Typical technical features of the inverter shall be as follows:

- Switching devices : IGBT/MOSFET
- Control : Microprocessor /DSP
- Nominal AC output voltage and frequency : 415V, 3 phase, 50 Hz
- Output frequency : 50 Hz
- Grid Frequency Synchronization range : + 3 Hz or more
- Ambient temperature considered : - 20°C to 50°C
- Humidity : 95 % Non-condensing
- Protection of Enclosure : IP-20(Minimum) for indoor
: IP-65(Minimum) for outdoor.
- Grid Frequency Tolerance range : + 3 or more
- Grid Voltage tolerance : - 20% & + 15 %
- No-load losses : Less than 1% of rated power

- Inverter efficiency (minimum) : >93%(In case of 10Kw or above)
 - Inverter efficiency (minimum) : >90%(In case of less than 10 Kw)
 - THD : < 3%
 - PF : > 0.9
 - Switching devices : IGBT/MOSFET
 - Control : Microprocessor /DSP
 - Nominal AC output voltage and frequency : 415V, 3 phase, 50 Hz
 - Output frequency : 50 Hz
 - Grid Frequency Synchronization range : + 3 Hz or more
 - Ambient temperature considered : - 20°C to 50°C
 - Humidity : 95 % Non-condensing
 - Protection of Enclosure : IP-20(Minimum) for indoor
: IP-65(Minimum) for outdoor.
 - Grid Frequency Tolerance range : + 3 or more
 - Grid Voltage tolerance : - 20% & + 15 %
 - No-load losses : Less than 1% of rated power
 - Inverter efficiency (minimum) : >93%(In case of 10Kw or above)
 - Inverter efficiency (minimum) : >90%(In case of less than 10 Kw)
 - THD : < 3%
 - PF : > 0.9
- a) Three phase PCU/ inverter shall be used with each power plant system (10 kW or above) but In case of less than 10kW single phase inverter can be used.
 - b) PCU/inverter shall be capable of complete automatic operation including wake-up, synchronization & shutdown.
 - c) The output of power factor of PCU inverter is suitable for all voltage ranges or sink of reactive power, inverter should have internal protection arrangement against any sustainable fault in feeder line and against the lightning on feeder.
 - d) Built-in meter and data logger to monitor plant performance through external computer shall be provided.
 - e) The power conditioning units / inverters should comply with applicable IEC/ equivalent BIS standard for efficiency measurements and environmental tests as per standard codes IEC 61683/IS 61683 and IEC 60068- 2(1,2,14,30) /Equivalent BIS Std.
 - f) The charge controller/ MPPT units environmental testing should qualify IEC 60068-2(1, 2, 14, 30)/Equivalent BIS std. The junction boxes/ enclosures should be IP 65(for outdoor)/ IP 54 (indoor) and as per IEC 529 specifications.

g) The PCU/ inverters should be tested from the MNRE approved test centres / NABL /BIS/IEC accredited testing- calibration laboratories. In case of imported power conditioning units, these should be approved by international test houses.

8. INTEGRATION OF PV POWER WITH GRID:

The output power from SPV would be fed to the inverters which converts DC produced by SPV array to AC and feeds it into the main electricity grid after synchronization. In case of grid failure, or low or high voltage, solar PV system shall be out of synchronization and shall be disconnected from the grid. Once the DG set comes into service PV system shall again be synchronized with DG supply and load requirement would be met to the extent of availability of power. 4 pole isolation of inverter output with respect to the grid/ DG power connection need to be provided.

9. DATA ACQUISITION SYSTEM / PLANT MONITORING

- (i) Data Acquisition System shall be provided for each of the solar PV plant.
- (ii) Data Logging Provision for plant control and monitoring, time and date stamped system data logs for analysis with the high quality, suitable PC with latest configuration, 42" monitor, UPS etc. Metering and Instrumentation for display of systems parameters and status indication to be provided.
- (iii) Solar Irradiance: An integrating Pyranometer/ solar cell based irradiation sensor (along with calibration certificate) provided, with the sensor mounted in the plane of the array. Readout integrated with data logging system.
- (iv) Temperature: Temperature probes for recording the Solar panel temperature and ambient temperature to be provided complete with readouts integrated with the data logging system.
- (v) The following parameters are accessible via the operating interface display in real time separately for solar power plant:
 - (a) AC Voltage.
 - (b) AC Output current.
 - (c) Output Power
 - (d) Power factor.
 - (e) DC Input Voltage
 - (f) DC Input Current.
 - (g) Time Active.
 - (h) Time disabled.
 - (i) Time Idle.
 - (j) Power produced.
- (k) Protective function limits (Viz-AC Over voltage, AC Under voltage, Over frequency, Under frequency, ground fault, PV starting voltage, PV stopping voltage).

- vi. All major parameters available on the digital bus and logging facility for energy auditing through the internal microprocessor and read on the digital front panel at any time and logging facility (the current values, previous values for up to a month and the average values) should be made available for energy auditing through the internal microprocessor and should be read on the digital front panel.
- vii. PV array energy production: Digital Energy Meters to log the actual value of AC/ DC voltage, Current & Energy generated by the PV system provided. Energy meter along with CT/PT should be of 0.5 accuracy class.
- viii. Computerized DC String/Array monitoring and AC output monitoring shall be provided as part of the inverter and/or string/array combiner box or separately.
- ix. String and array DC Voltage, Current and Power, Inverter AC output voltage and current (All 3 phases and lines), AC power (Active, Reactive and Apparent), Power Factor and AC energy (All 3 phases and cumulative) and frequency shall be monitored.
- x. Computerized AC energy monitoring shall be in addition to the digital AC energy meter.
- xi. The data shall be recorded in a common work sheet chronologically date wise. The data file shall be MS Excel compatible. The data shall be represented in both tabular and graphical form.
- xii. All instantaneous data shall be shown on the computer screen.
- xiii. Software shall be provided for USB download and analysis of DC and AC parametric data for individual plant.
- xiv. Provision for Internet monitoring and download of data shall be also incorporated.
- xv. Remote Server and Software for centralized Internet monitoring system shall be also provided for download and analysis of cumulative data of all the plants and the data of the solar radiation and temperature monitoring system.
- xvi. Ambient temperature and relative humidity near PV array at the level of array plane shall be monitored on continuous basis.
- xvii. Solar PV module back surface temperature shall be also monitored on continuous basis. xviii. Simultaneous monitoring of DC and AC electrical voltage, current, power, energy and other data of the plant for correlation with solar and environment data shall be provided.
- xix. Remote Monitoring and data acquisition through Remote Monitoring System software at the Trivandrum Airport/ AAI remote location with latest software/hardware configuration and service connectivity for online / real time data monitoring/control complete to be supplied and operation and maintenance/control to be ensured by the supplier. Provision for interfacing these data on AAI server and portal in future.

10. TRANSFORMER & METERING:

- a) The tied grid connectivity shall be provided by bidder by using 415V underground cable i/c laying work etc. The approximate distance from solar plant site to grid is 500 M. The LT

switchgears with all protections i/c connections, required modifications etc. shall be made by the bidder at tied grid connectivity point.

- b) The electronic energy meter (0.5 S class) shall be installed for the measurement of solar generated energy.
- c) The bidder must take approval/NOC from the Concerned KSEB/ CEA for the connectivity, technical feasibility, and synchronization of SPV plant with distribution network and submit the same to AAI before commissioning of SPV plant.
- d) Reverse power relay shall be provided by bidder (if necessary), as per the local KSEB requirement.

11. POWER CONSUMPTION:

- a) Regarding the generated power consumption, priority need to give for internal consumption first and thereafter any excess power can be exported to grid. Finalization of tariff is not purview of AAI. Decisions of appropriate authority like KSEB, state regulator may be followed.

12. PROTECTIONS:

The system should be provided with all necessary protections like earthing, Lightning, and grid islanding as follows:

12.1. LIGHTNING PROTECTION:

- (a) The SPV power plants shall be provided with lightning & overvoltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc. The entire space occupying the SPV array shall be suitably protected against Lightning by deploying required number of Lightning Arrestors. Lightning protection should be provided as per IEC 62305 standard. The protection against induced high-voltages shall be provided by the use of metal oxide varistors (MOVs) and suitable earthing such that induced transients find an alternate route to earth.

12.2 SURGE PROTECTION:

- a) Internal surge protection shall consist of three MOV type surge-arrestors connected from +ve and -ve terminals to earth (via Y arrangement)

12.3 EARTHING PROTECTION:

- a) Each array structure of the PV yard should be grounded/ earthed properly as per IS:3043-1987. In addition the lightning arrester/masts should also be earthed inside the array field. Earth Resistance shall be tested in presence of the representative of Engineer-In-Charge as and when required after earthing by calibrated earth tester. PCU, ACDB and DCDB should also be earthed properly

- b) Earth resistance shall not be more than 5 ohms. It shall be ensured that all the earthing points are bonded together to make them at the same potential.

12.4 GRID ISLANDING:

- a) In the event of a power failure on the electric grid, it is required that any independent power-producing inverters attached to the grid turn off in a short period of time. This prevents the DC-to-AC inverters from continuing to feed power into small sections of the grid, known as "islands." Powered islands present a risk to workers who may expect the area to be unpowered, and they may also damage grid-tied equipment. The roof top Mounted Solar PV system shall be equipped with islanding protection. In addition to disconnection from the grid (due to islanding protection) disconnection due to under and over voltage conditions shall also be provided.
- b) A manual disconnect 4pole isolation switch beside automatic disconnection to grid would have to be provided at utility end to isolate the grid connection by the utility personnel to carry out any maintenance. This switch shall be locked by the utility personnel.

13. CABLES:

Cables of appropriate size to be used in the system shall have the following characteristics:

- i. Shall meet IEC 60227/IS 694, IEC 60502/IS1554 standards
- ii. Temp. Range: -10°C to $+80^{\circ}\text{C}$
- iii. Voltage rating 660/1000V
- iv. Excellent resistance to heat, cold, water, oil, abrasion, UV radiation
- v. Flexible
- vi. Sizes of cables between array interconnections, array to junction boxes, junction boxes to Inverter etc. shall be so selected to keep the voltage drop (power loss) of the entire solar system to the minimum. The cables (as per IS) should be insulated with a special grade PVC compound formulated for outdoor use.
- vii. Cable Routing/ Marking: All cable/wires are to be routed in a GI cable tray and suitably tagged and marked with proper manner by good quality ferule or by other means so that the cable easily identified.
- viii. The Cable should be so selected that it should be compatible up to the life of the solar PV panels i.e. 25years.
- ix. The ratings given are approximate. Bidder to indicate size and length as per system design requirement. All the cables required for the plant to be provided by the bidder. Any change in cabling sizes if desired by the bidder/ approved after citing appropriate reasons. All cable schedules/layout drawings approved prior to installation be got approved from Engineer in-charge prior to installation.

- x. The size of each type of DC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 1%.
- xi. The size of each type of AC cable selected shall be based on minimum voltage drop however; the maximum drop shall be limited to 2 %.

14. TOOLS & TACKLES AND SPARES:

- After completion of installation & commissioning of the power plant, necessary tools & tackles are to be provided free of cost by the bidder for maintenance purpose. A list of tools and tackles to be supplied by the bidder for approval of specifications and make before supply of the same.
- A list of requisite spares in case of PCU/inverter comprising of a set of control logic cards, IGBT driver cards etc Junction Boxes. Fuses, MOVs / arrestors, MCCBs etc along with spare set of PV modules be indicated, which shall be supplied along with the equipment. A minimum set of spares shall be maintained in the plant itself for the entire period of warranty and Operation & Maintenance which upon its use shall be replenished.

15. DANGER BOARDS AND SIGNAGES:

Danger boards should be provided as and where necessary as per IE Act. / IE rules as amended up to date. Suitable numbers of signages shall be provided at battery-cum-control room, solar array area, main entry & other locations. Text of the signages may be finalized in consultation with AAI.

16. PLANNING AND DESIGNING:

- a. For complete electro-mechanical works & civil works, bidder shall submit complete design, details and drawings for approval to AAI before progressing with the supply & installation work. Approved ISI and reputed makes of equipment shall be used.
- b. The Contractor shall furnish the following drawings after Award/Intent and obtain approval:
 - i. General arrangement and dimensioned layout.
 - ii. Schematic drawing showing the requirement of SV panel, Power conditioning Unit(s)/ inverter, Junction Boxes, AC and DC Distribution Boards, LT panels, transformers, HT panels, HT/LT cables, meters etc.
 - iii. Structural drawing along with foundation details for the structure.
 - iv. Itemized bill of material for complete SV plant covering all the components and associated accessories.
 - v. Layout of solar Power Array.
- c. The bidder should carry out Shadow Analysis at the site and accordingly design strings & arrays layout considering optimal usage of space, material and labour. The bidder should submit the array layout drawings along with Shadow Analysis Report to AAI for approval after award of work.

- d. AAI reserves the right to modify the landscaping design, Layout and specification of sub- systems and components at any stage as per local site conditions/requirements.
- e. The bidder shall submit preliminary drawing for approval & based on any modification or recommendation, if any. The bidder submits three sets and soft copy in CD of final drawing for formal approval to proceed with construction work.
- f. The bidder shall design the complete system of solar plant in such a way that more than one PCU are provided in the system to avoid complete breakdown.

17. DRAWINGS & MANUALS TO BE SUBMITTED BY BIDDER AFTER COMPLETION OF WORK:

Two sets of Engineering, electrical drawings and Installation and O&M manuals are to be supplied. Bidders shall provide complete technical data sheets for each equipment giving details of the specifications along with make/makes with basic design of the power plant and power evacuation, synchronization along with protection equipment.

18. SOLAR PV SYSTEM ON ROOF TOP FOR MEETING THE ANNUAL ENERGY REQUIREMENT

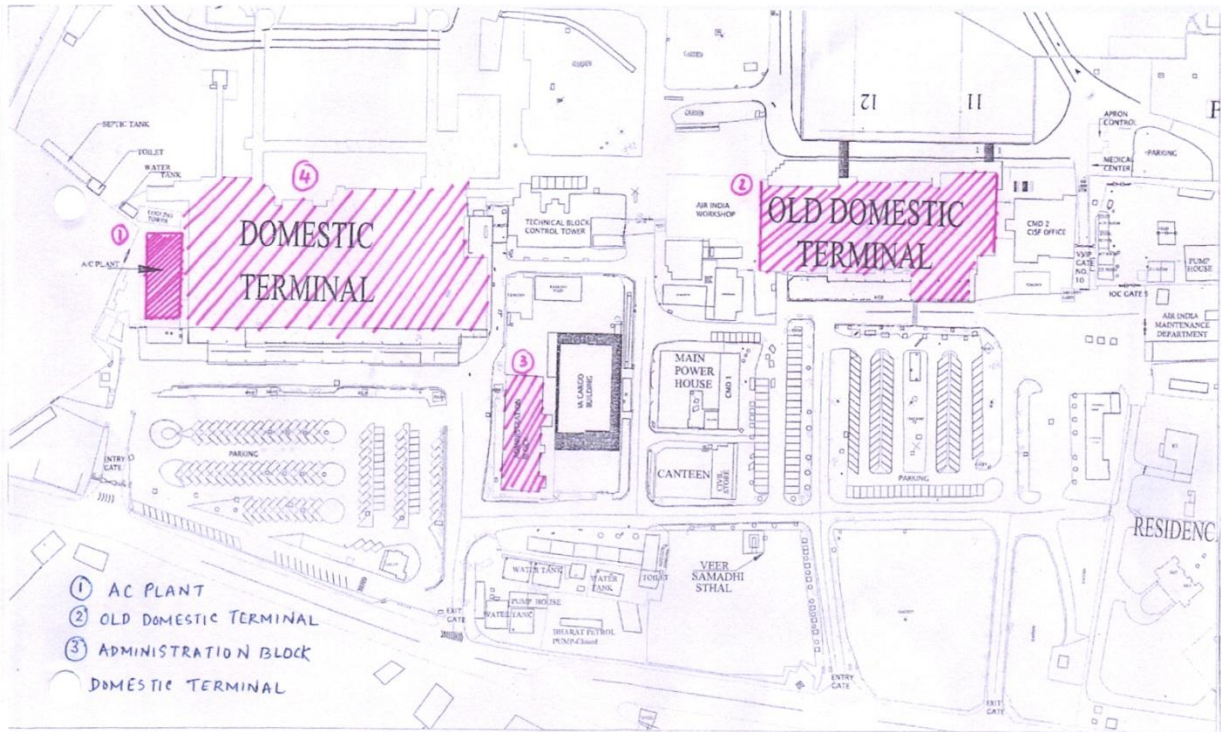
The Solar PV system on the roof top will be installed for meeting approximately 90% of the annual energy requirements depending upon the area of land available and the remaining energy requirement of the office buildings will be met by drawing power from grid at commercial tariff of KSEB.

19. SAFETY MEASURES:

The bidder shall take entire responsibility for electrical safety of the installation(s) including connectivity with the grid and follow all the safety rules & regulations applicable as per Electricity Act, 2003 and CEA guidelines etc.

20. ELECTRICAL MAINTENANCE:

All the electrical maintenance schedule shall be as per AAI manual and satisfactory of the Engineer-in-charge.

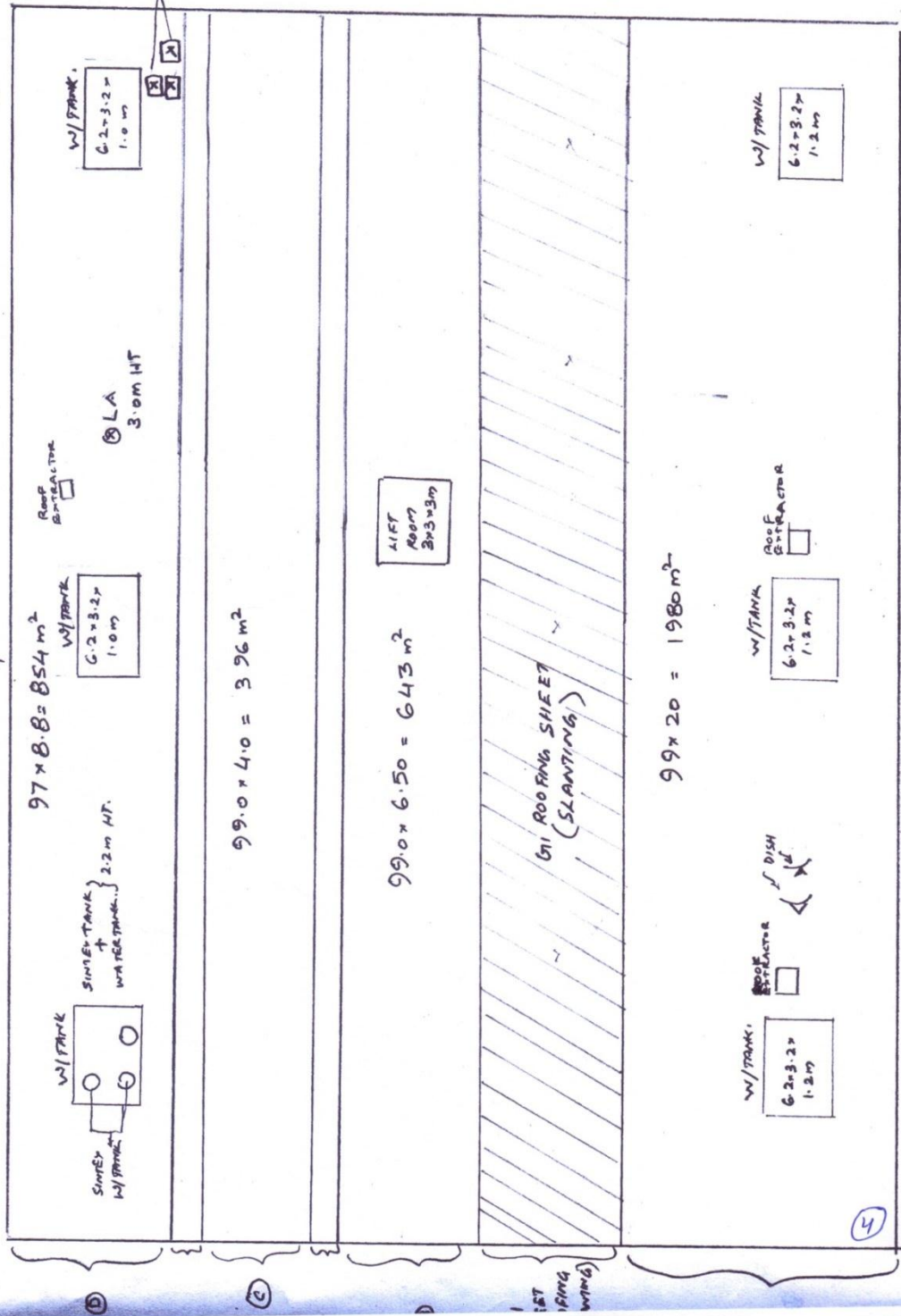


DOMESTIC TERMINAL, SITE PLAN
 TRIVANDRUM INTERNATIONAL AIRPORT

J. H. mill

NEW DOMESTIC TERMINAL

AIR SIDE ↑



$97 \times 8.8 = 854 \text{ m}^2$

$99.0 \times 4.0 = 396 \text{ m}^2$

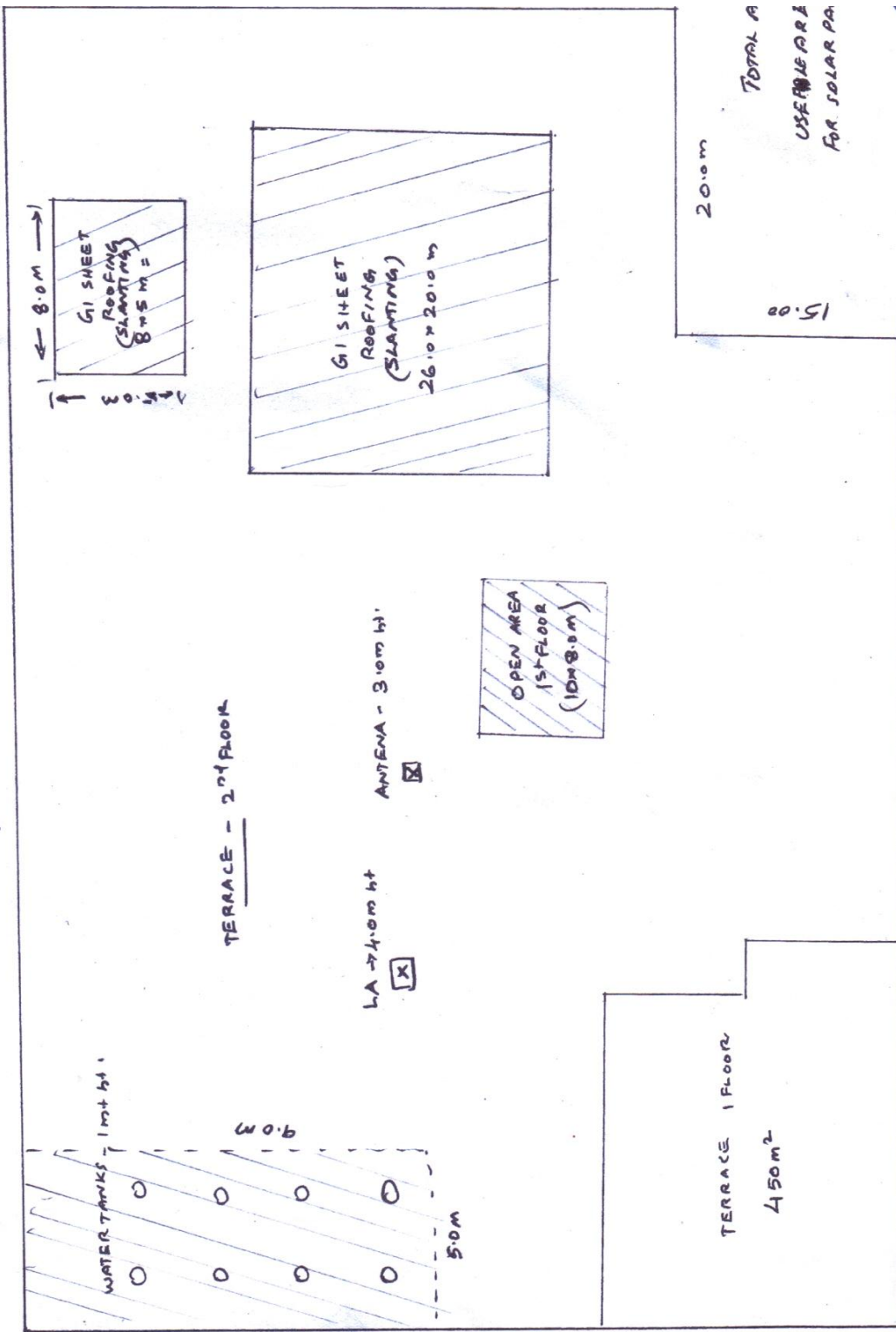
$99.0 \times 6.50 = 643 \text{ m}^2$

$99 \times 20 = 1980 \text{ m}^2$

SECTION (A) →
SECTION (B) →
SECTION (C) →
SECTION (D) →
TOTAL AREA =
USEABLE AREA
FOR SALAR ROOM

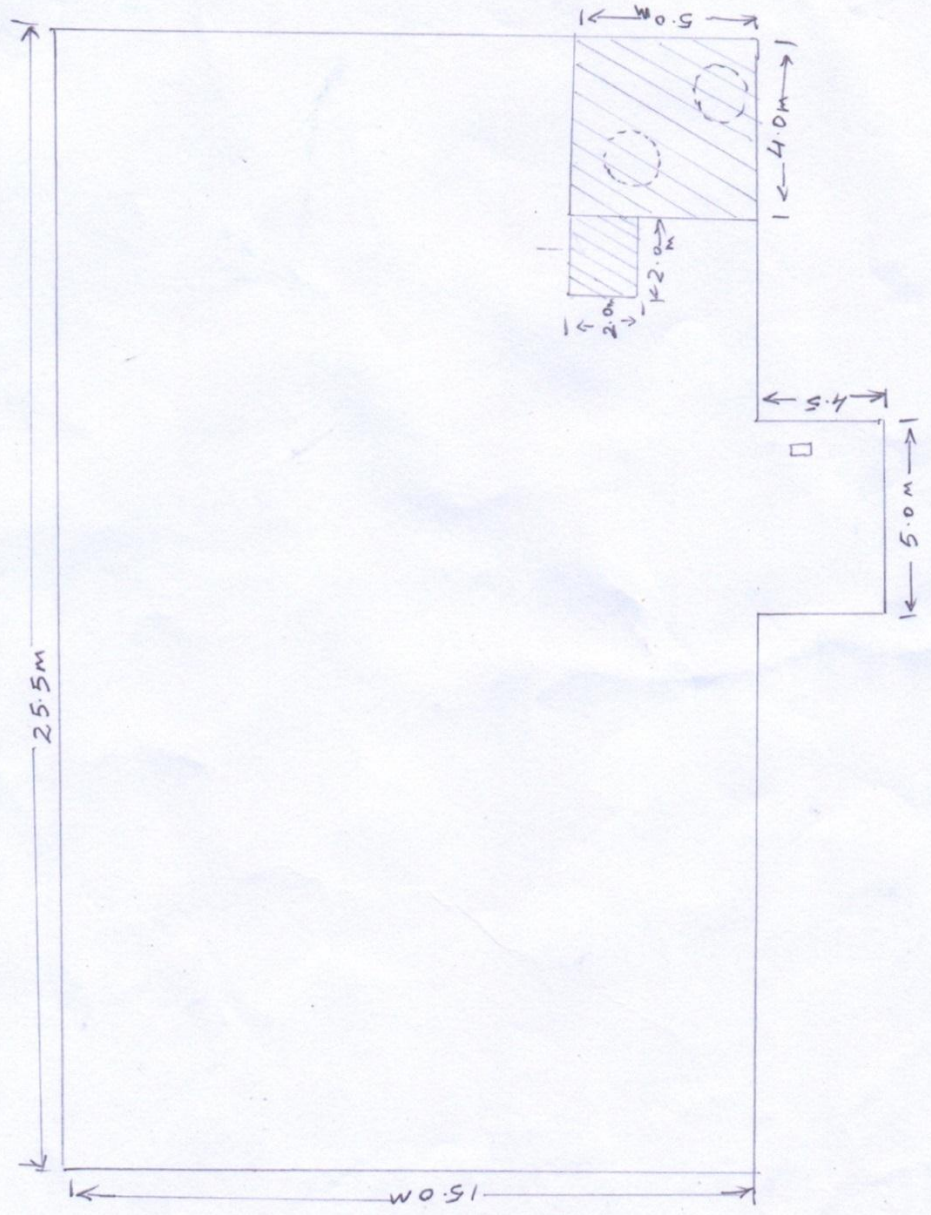
Handwritten signature
19/11/15
M. J. C. E.

Old Domestic Building
52.40



ADP BLOCK - SECOND FLOOR TERRACE

3

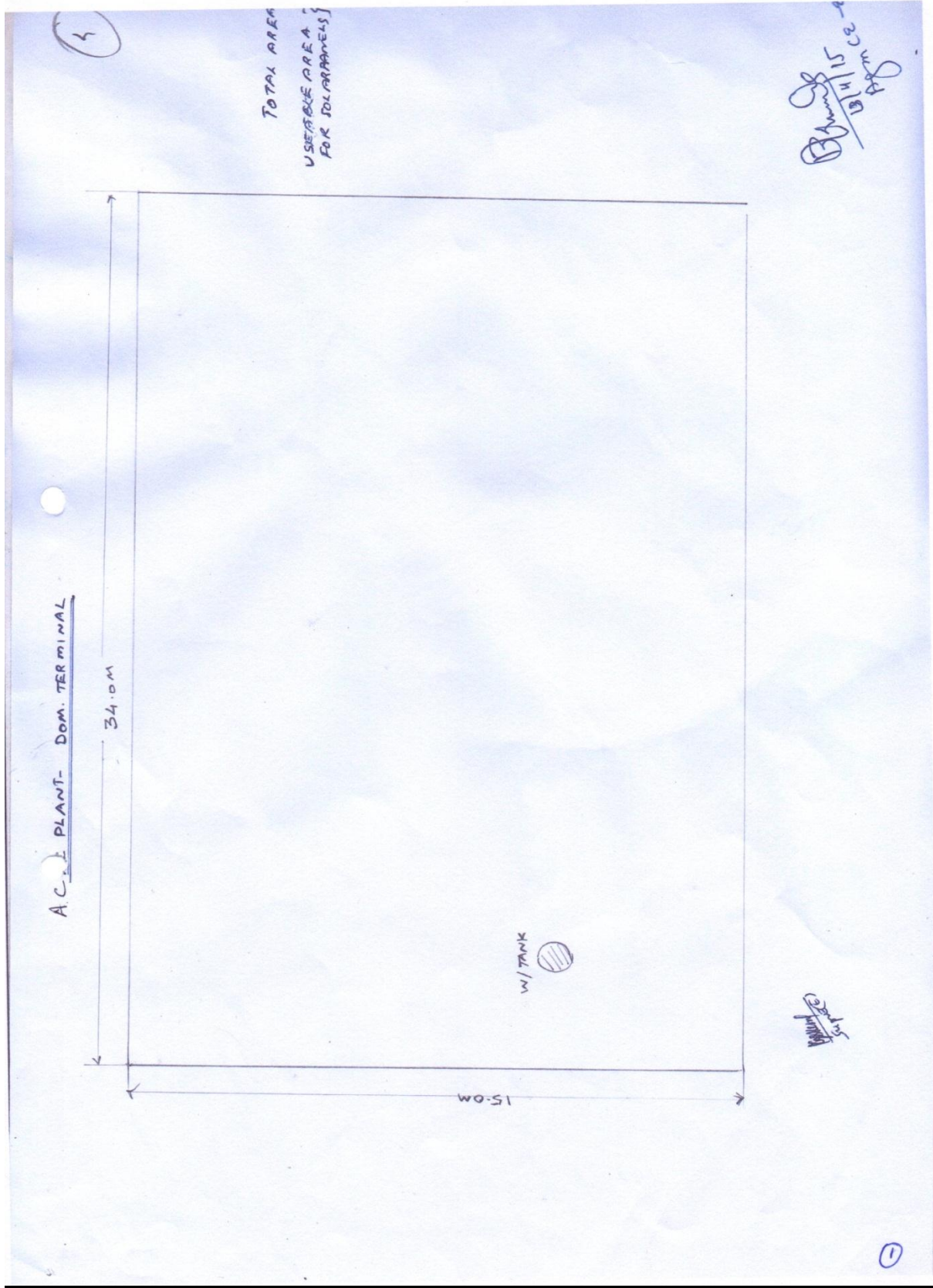


TOTAL AREA = 405
 USEABLE AREA } = 388
 FOR SOLAR PANELS

Blair
 13/11/15
 Prof

Blair
 13/11/15

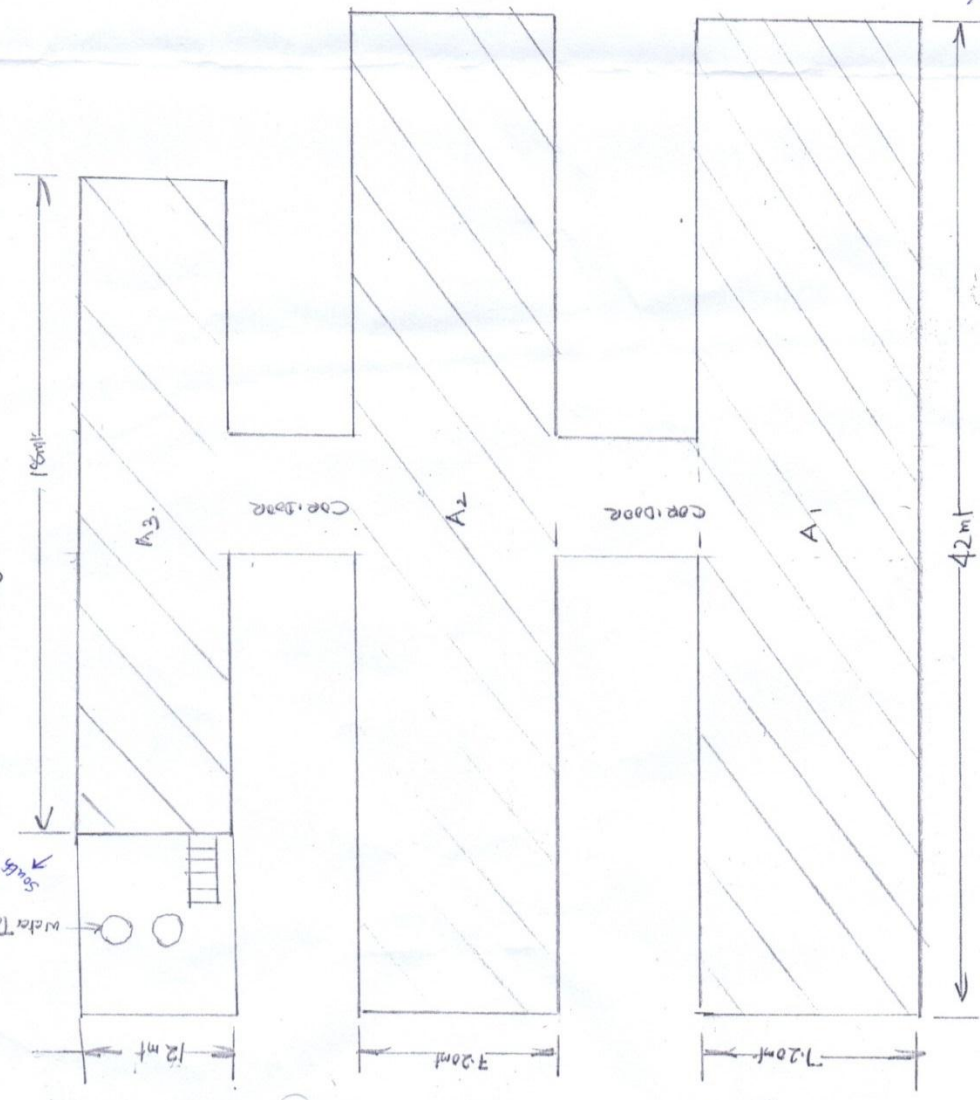
2



(15)

ROOF DIAGRAM OF 2-STORIED BUILDING
(MUTRA THARA)
CISF

ROOF TOP OF TWO STORIED BUILDING AT CISF BARRACK:



Area of $A_1 = 42\text{m} \times 7.20\text{m} = 302.4\text{sq}$
 $A_2 = 42\text{m} \times 7.20\text{m} = 302.4\text{sq}$
 $A_3 = 18 \times 12 = 216\text{sq}$
820.80

Dr. J. S. D.

Schedule of Quantities

Name of Work: - SITC of 500 KWp Grid Connected Solar Roof Top Power Plant at Trivandrum Airport.

SI No.	DESCRIPTION OF ITEM	Qty (kWp)	Rate	Unit	Amount
SH-I	Supply & installations of Renewable energy solar PV Power plant				
1	SITC of renewable energy grid tied anti-glare solar PV Power plant which facilitates synchronization with 500 kWp grid connected solar PV panels, solar mounting array structure, solar power conditioning unit, solar junction box / connectors, solar cables, necessary wirings, plant monitoring system (SCADA) to monitor the status of all major equipment and other accessories, lightning protection, surge protection, earthing systems for array yard and safety equipments / measures and other accessories over roof top of new and old domestic terminal buildings, A/C plant, administrative building and CISF Barrack (Total area =approximately 7086 sq mm) etc. complete as required.				
	(a) New Domestic Building Roof Top	300		Each	
	(b) AC Plant Roof Top	30		Each	
	(c) Old Domestic Roof Top	110		Each	
	(d) Administrative Building Roof Top	10		Each	
	(e) CISF Barrack Roof Top	50		Each	

Sl. No.	DESCRIPTION OF ITEM	Qty	Rate	Unit	Amount
SH - II	Supply & laying of power cable				
1	Supply of XLPE insulated PVC inner sheathed/XLPE power cable, armoured copper conductor power cable of 1.1 KV grade of following size etc as per IS 7098 part I 1988 with upto date amendmets etc as reqd. (a) 3.5 x 35sqmm	250		Mtr	
2	Supply of XLPE insulated PVC inner sheathed/XLPE power cable, armoured copper conductor power cable of 1.1 KV grade of following size etc as per IS 7098 part I 1988 with upto date amendmets etc as reqd. (a) 3.5 x 240sqmm	350		Mtr	
3	Laying and fixing of one number PVC insulated and PVC sheathed/XLPE power cable of 1.1KV grade of size upto 35 sqmm (clamped with 1mm thick saddle) on wall surface as required.	250		Mtr	
4	Laying of one number XLPE insulated and PVC sheathed /XLPE copper power cable of 1.1 KV grade of size exceeding 185sq mm but not exceeding 400 sq mm.				

Sl. No.	DESCRIPTION OF ITEM	Qty	Rate	Unit	Amount
	(a) Direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required (Note: Excavation sand to be provided for cable cushioning)	10		Mtr	
	(b) In masonry duct/trench	50		Mtr.	
5	Laying and fixing of one number XLPE insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of size exceeding 185sq mm but not exceeding 400 sq mm. (a) on wall surface as required (clamped with 40 x 3 mm MS flat clamp)	290		Mtr	
6	Supplying and making end termination with brass compression gland and copper lugs for following size of XLPE insulated and PVC sheathed copper conductor cable of 1.1 KV grade as required				
	(a) 3.5 x 35 sqmm	20		Each	
	(b) 3.5 x 240 sqmm	24		Each	

Sl. No.	DESCRIPTION OF ITEM	Qty	Rate	Unit	Amount
7	SITC of suitable size ACDB fabricated out of 14 SWG MS sheet painted with one coat of anti corrosive primer and two coats of grey enamel paint with conical roof, fixed on brick work / angle iron support and duly plastered all exposed sides, fixing two nos danger boards, dust proof, vermin proof with opening in front and back with doors and locking arrangement, earth terminal, gland plate, suitable for outdoor installations and complete with MCCB 100A FP 36KA-07 nos, MCCB 320A FP - 1 No , Energy meter and CT with suitable size copper busbar & its accessories with all interconnections etc. as reqd.(New domestic and AC plant)	1		Job	

Sl. No.	DESCRIPTION OF ITEM	Qty	Rate	Unit	Amount
8	SITC of suitable size ACDB fabricated out of 14 SWG MS sheet painted with one coat of anti corrosive primer and two coats of grey enamel paint with conical roof, fixed on brick work / angle iron support and duly plastered all exposed sides, fixing two nos danger boards, dust proof, vermin proof with opening in front and back with doors and locking arrangement, earth terminal, gland plate, suitable for outdoor installations and complete with MCCB 100A FP 36KA-03 Nos, MCCB 250A FP - 1 No and Energy meter and CT with suitable size copper busbar & its accessories with all interconnections etc. as reqd.(Old domestic building)	1		Job	

Sl. No.	DESCRIPTION OF ITEM	Qty	Rate	Unit	Amount
9	SITC of suitable size ACDB fabricated out of 14 SWG MS sheet painted with one coat of anti corrosive primer and two coats of grey enamel paint with conical roof, fixed on brick work / angle iron support and duly plastered all exposed sides, fixing two nos danger boards, dust proof, vermin proof with opening in front and back with doors and locking arrangement, earth terminal, gland plate, suitable for outdoor installations and complete with MCCB 100A FP 36KA-02 Nos, MCCB 100A FP - 1 No and Energy meter and CT with suitable size copper busbar & its accessories with all interconnections etc. as reqd.(Administrative building and CISF barrack)	2		Job	
10	Supply and fixing of following FP MCCB, 36KA industrial type, in a suitable metal enclosure in wall complete with connections, testing and commissioning etc as required.				
	(a) 320 A (New domestic & AC Plant)	2		Job	
	(b) 250 A (Old Domestic)	2		Job	
11	Supply and fixing of following FP MCCB, 36KA industrial type, in a suitable metal enclosure in wall complete with connections, testing and commissioning etc. as required. 100 A (CISF Barrack& admin block)	4		Job	

Sl. No.	DESCRIPTION OF ITEM	Qty	Rate	Unit	Amount
12	Supply and fixing of following FP MCCB, 36KA industrial type providing additional chamber with extension in the existing LT panel complete with connections, testing and commissioning etc as required.				
	100 A (CISF Barrack& admin block)	2		Job	
SH- III	Provision for net metering at EHT 66 KV side	1		LS	
SH- IV	CMC of SPV power plant				
1	Comprehensive Maintenance Contract of SPV power plant beyond warranty period for two years including inspection by trained personnel and routine maintenance and cleaning SPV module, monitoring the system, maintain proper records, checking the essential parameters of the plant and equipments etc.				
	1 st & 2 nd Year	Under comprehensive warranty			
	(a) 3 rd Year	1		Year	
	(b) 4 th year	1		Year	
	(c) 5 th Year	1		Year	
Total Rs.					
Service Tax					
Discount if any					
Net Total Rs.					

Note:-

1. The quantity given above is tentatively calculated for available land space as shown in Layout plan. The quantity may vary after carrying out the shadow analysis at the site & designing of strings & arrays layout for optimal utilization of the available land space.
2. Payment will be made to the agency as per actual installed capacity of the Solar PV System.

LIST OF APPROVED MAKES FOR ELECTRICAL WORKS W.E.F. JUNE-2008

S.N.	ITEM	APPROVED MAKES	CATEGORY OF TEST CERTIFICATE / INSPECTION
A. PANEL, SWITCHGEARS AND RELATED ITEMS:			
1	LT PANELS/BUS DUCT	a) C & S / L & T / SIEMENS / ABB / GEPOWER (SPECTRA) / SCHNEIDER / UNILEC / JACKSON / MILESTONE / GODREJ / ADLEC / TRICOLITE / SUDHIR / NEPTUNE / INCONTECH ENGG (P) LTD. SUBJECT TO HAVING VALID CPRI CERTIFICATE OF REQUIRED FAULT LEVEL & IP LEVEL PROTECTION AT THE TIME OF PLACING ORDER.	CATEGORY - 1
		b) BY ANY PANEL MANUFACTURER WHO POSSESS CPRI CERTIFICATE FOR SPECIFIED FAULT LEVEL AND IP LEVEL PROTECTION WITH PRIOR APPROVAL OF OFFICER NOT BELOW DGM (E-E)	
2	AIR CIRCUIT BREAKERS	L & T / G.E POWER / SIEMENS / ABB / SCHNEIDER CONTROL & SWITCH GEAR.	CATEGORY - 2
		SPECIFICATION MICROPROCESSOR RELEASE HAS TO BE MENTIONED IN THE TENDER AND SHOULD BE SCADA COMPATIBLE IF REQUIRED.	
3	MOULDED CASE CIRCUIT BREAKERS	a) L & T / SIEMENS / SCHNEIDER / GE POWER / ABB / CONTROL & SWITCH GEAR / LEGRAND.	CATEGORY - 2
		b) L & T / SIEMENS / SCHNEIDER / GE POWER / ABB / CONTROL & SWITCH GEAR / LEGRAND / HAVELLS / INDOASIAN / STANDARD / HPL / BCH (INSIDE ANICILLARY BUILDING AND RESIDENTIAL BUILDING ONLY).	
4	AMMETER, VOLTMETER,	AE / MECO / UNIVERSAL / RISHAB / IMP / TRINITY / ELMEASURE / CONSERVE / HPK.	CATEGORY - 3
5	KWH, PF, FREQUENCY METER	L & T / HAVELLS / BHEL / SIMCO / UNIVERSAL / BELGAUM METERS / AE / HPL / INDIA METER / AREVA.	CATEGORY - 3
6	DIGITAL METERS / INTELLIGENT MULTIFUNCTIONAL DIGITAL METER	CONSERVE / NEPTUNE / HPL / L & T / TRINITY / SCHNEIDER / MOTWANI / RISHAB / ELMEASURE / SECCURE (T.S. AUTHORITY MAY ADD MAKES CONSIDERING THE LOCAL AVAILABILITY AND QUALITY. THE APPROVED OEM OF HT / LT PANEL MANUFACTURERS SHALL BE PERMITTED).	CATEGORY - 3
7	TRIVECTOR METER	SUNCO / BELGAUM / IMP / L& T.	CATEGORY - 2
8	SELECTOR SWITCH, PUSH BUTTION SWITCH EMERGENCY SWITCH	KAY CEE / CONTROL & SWITCH GERAS / L & T / GE POWER / SIEMENS / BCH / SCHENIDER / ROCKWELL.(ALLEN BRADELY) / TEKNIC (T.S.AUTHORITY MAY ADD MAKES CONSIDERING THE LOCAL AVAILABILITY AND QUALITY. THE APPROVED OEM OF LT / HT PANEL MANUFACTURERS SHALL BE PERMITTED).	CATEGORY - 4

S.N.	ITEM	APPROVED MAKES	CATEGORY OF TEST CERTIFICATE / INSPECTION
9	LED INDICATION LAMPS	AE / C&S / VINAY LED / EASUN / CONCORD / KAY CEE / SIEMENS / VAISHNOV / L & T / SCHENIDER / ROCKWELL (ALLEN BRADLEY) / PREFIFINE / BCH (T.S. AUTHORITY MAY ADD MAKES CONSIDERING THE LOCAL AVAILABILITY AND QUALITY. THE APPROVED OEM OF HT / LT PANEL MANUFACTURERS SHALL BE PERMITTED).	CATEGORY - 3
10	CT'S	AE / KAPPA / UNIVERSAL / KAYCEE / IMP / C & S / L & T / MECO / KAPCO / CROMPTION GREAVES / PRAGATI / INSTRANS. (T.S. AUTHORITY MAY ADD MAKES CONSIDERING THE LOCAL AVAILABILITY AND QUALITY. THE APPROVED OEM OF HT / LT PANEL MANUFACTURERS SHALL BE PERMITTED).	CATEGORY - 3
11	PROTECTIVE RELAYS	AREVA / EASUN REYROLLE / L & T / ABB / SIEMENS.	CATEGORY - 2
B	SUBSTATION RELATED ITEMS.		
12	a) H.T.TERMINATION & JOINTING KIT.	RAY CHEM/M-SEAL/CAB SEAL/MAHINDRA / DENSION / COMPAQ / BIRLA-3M.	CATEGORY - 3
	b) CABLES GLANDS	COMET/DOWELL/ELECTROMAC/SIEMENS / BRACO / HMI / MCI / (METAL / CRAFT).	CATEGORY - 3
	c) LUGS & THIMBLES	DOWELLS / JOHNSONS / COMET / ASCON	CATEGORY - 4
	c) UP TO AND INCLUDING 1.1 KV CABLES (ISI MARKED)	CCI (BANGALORE) / GLOSTER (KOLKATA, HYDERABAD) / NICCO (SHYAM NAGAR, WB) / UNIVERSAL (SATNA) / RPG (ASIAN) (MUMBAI) / HAVELLS (RAJASTHAN) / INDUSTRIAL CABLES (RAJPURA) / TORRENT (NADIAD) / GEMCAB (HYDERABAD) / HINDUSTAN VIDYUT PRODUCT LTD* (FARIDABAD) / POLYCAB (DHAMAN) / RAVIN (PUNE) / FINOLEX (PUNE) / KEI* (MPCAB) (GWALIOR) / KEI* (DELHI) / AVOCAB* (AHEMDABAD) / EKTA* (NEW DELHI) / SKYTONE* (FARIDABAD) IN CASE OF NON-AVAILABILITY OF THE ABOVE MAKES OTHER ISI MAKE CABLE SHALL BE OPTED WITH THE APPROVEL OF ENGG OFFICER NOT BELOW DGM ENGG (E).	CATEGORY - 1
	d) CONTROL CABLES (ISI MARKED)	CCI (BANGALORE) / GLOSTER (KOLKATA, HYDERABAD) / NICCO (SHYAM NAGAR, WB) / UNIVERSAL (SATNA) / RPG (ASIAN) (MUMBAI) / HAVELLS (RAJASTHAN) / INDUSTRIAL CABLES (RAJPURA) / TORRENT (NADIAD) / FINOLEX (PUNE) / GEMCAB (HYDRABAD) / HINDUSTAN VIDYUT PRODUCT LTD* (FARIDABAD) / POLYCAB (DHAMAN) / RAVIN (PUNE) / FINOLEX (PUNE) / KEI* (MPCAB) (GWALIOR) / KEI* (DELHI) / LAPP / ALOKE* (ANKUR TECHNOCRAF) / AVOCAB* (AHEMDABAD) / EKTA* (NEW DELHI) / SKYTONE* (FARIDABAD) IN CASE OF NON-AVAILABILITY OF THE ABOVE MAKES OTHER ISI MAKE CABLE SHALL BE OPTED WITH THE APPROVEL OF ENGG OFFICER NOT BELOW DGM ENGG (E).	CATEGORY - 1
13	LIGHTING ARRAESTORS	LAMCO / ELARO / INTERNATIONAL / ATLAS / AREVA / OBLUM / ALPRO / WS IND. / BELGAUMIA / JAYSHREE.	CATEGORY - 3

14	ADVANCE LIGHTING ARRESTER (EARLY STREAMER EMISSION TYPE /ONLINE SURGE ARRESTER)	INDELEC / ERICO / DUVAL MASSIAN / PHEONIX / TERCEL / FRANKLIN.	CATEGORY - 3
15	SCADA HARDWARE	COMPAQ / DELL / IBM / ACER / SIEMENS -NITEL / HCL / SCHNIDER / ABB / ALLEN BRADELY / GE FANUC.	CATEGORY - 2
16	SCADA SOFTWARE	SIEMENS (DESIGA INSIGHT / JOHNSON CONTROLS (METASYSMS / LALNDIS & STEAEFA / HONEYWELL / SCHNIDER / ABB / GE FANUC.	CATEGORY - 2
17	Solar Modules	Made in India: Tata power/ Waaree/ Vikram Solar/ EMMVEE/ HHV/ BHEL/ Solon/ BEL	
18	Inverter	ABB / Bonfiglioli / Schneider / SMA / TMEIC / KACO	
18	SMU / String Combiner Box	Respective inverter Manufacturer / Weidmuller / Robotina / Trinity Touch /Skytron / Hensel / iPLON	
19	DC Cables	Amer Cable / Keylios / Helukabel / Leoni / Advance / Lapp / Prysmian / KEI/Top Cable / Slichem	
20	Digital Multifunction Meter	CONSERVE / NEPTUNE / HPL / L&T / TRINITY / SCHNEIDER / MOTWANI / RISHAB/ ELMEASURE/ SECCURE (T.S. Authority may add makes considering the local availability and quality. The approved OEM of HT/LT Panel manufacturers shall be permitted).	
21	Relays	AREVA / EASUN REYROLLE / L&T / ABB / SIEMENS	
22	UPS	Emerson / Scheider / Eaton / Legrand / Socomec	
23	Pyrano meter	Kipp & Zonnen	

CATEGORY REQUIREMENT OF TEST OF CERTIFICATE/ INSPECTION

CATEGORY- 1

- a) Type test certificate for similar item done. If not, one of the items offered is to be type tested.
- b) OEMs routine test Certificate.
- c) Acceptance test to be conducted in the presence of AAI representative at OEMs factory.

CATEGORY- 2

- a) Type test Certificate for similar item done. If not, one of the items offered is to be type tested. b) OEMs routine test certificate.
- c) Visual and functional check by AAI official at AAI airport site.

CATEGORY- 3

- a) OEM/Dealer/Contractor routine test certificate.
- b) Visual and functional check by AAI official at AAI airport site.

CATEGORY-4

- a) Visual and functional check by AAI official at AAI airport site.

(C.....I.....O.....)

Signature Not Verified

161
Digitally signed by BAIJU K V
Date: 2017.06.21 16:54:56 IST
Location: Government Procurement System