

**Clarification No.1 to Tender Document for Design, Engineering, Manufacture, Supply, Storage,
Civil Work, Erection, Testing & Commissioning of 5.76 MWp (DC) Grid connected Rooftop solar PV Plant including O&M of the Plant for a period of 5 years
(Tender No.GAIL/SECI/PC/W-171/SOLAR PV/2016 (E-Tender No. 8000010172))**

Sl. No.	Section No.	Clause No.	Page No.	Subject	Bidders Query	SECI's Reply/ Clarification
1	Section I	10.0	8	IFB	Please confirm paying authority for LSTK job	Please refer Corrigendum No.2
2	Section I, II, III	38	39	CONTRACT PERFORMANCE SECURITY / SECURITY DEPOSIT	We request please make this as 5% of O&M value of Contract and not on Total LSTK Contract Value	Tender conditions shall prevail.
3	Section I, II, III	38	39	CONTRACT PERFORMANCE SECURITY / SECURITY DEPOSIT	In many of banks when validity of BG goes beyond 5 Years, Banks asks for 100 % deposit, in view of this difficulty we request you to please allow us to submit said BG initially for 5 Years and there after for remaining period	Please refer Corrigendum No.2
4	Section II		10	Bid Evaluation Criteria	A job executed by a Bidder for its own plant/projects cannot be considered as experience for the purpose of meeting the requirement of BEC of the tender' should be further qualified by adding the words "unless those Solar PV Power Projects have been executed under Government of India, MNRE, RPSSGP scheme through IREDA as Nodal Agency"	Tender conditions shall prevail.
5	Section II		10	Bid Evaluation Criteria	Alternatively the line to be added to the above referred note on Page No. 11 of 133 of Section-II can read as "Solar PV Power Projects which have been executed under Government of India, MNRE, RPSSGP scheme through IREDA as Nodal Agency will be considered as experience for the requirement of meeting of BEC of the tender	Tender conditions shall prevail.
6	Section II			Bid Evaluation Criteria	Please amend the clause as cumulative capacity of 1 MWp (DC) & 500kWp (DC) rooftop respectively under said clause a & b considering for one rooftop of 500 kWp is rare experience.	Tender conditions shall prevail.
7	Section II	(i)	10	Bid Evaluation Criteria	As per the BEC "The bidder must be company regisetred under the India companese act 1956 or 2013"are only eligibilie to paritcipate. we request you to kindly consider participation of proprietorship firms.	Tender conditions shall prevail.
8	Section II			Bid Evaluation Criteria	Please amend the financial eligibility clause to include that the bidder may seek qualification on the basis of financial capability of its parent company.	Tender conditions shall prevail.
9	Section III	38	39	CONTRACT PERFORMANCE SECURITY / SECURITY DEPOSIT	10% BG against final payment + 10% PBG during DLP and 5% BG on O&M. Request to reduce it to 5% for each of the stages.	Tender conditions shall prevail.
10	Section III	11.1.1	23	Signing of the Bid	Since this is an online Bid digitally certified by the Power of Attorney's Class 3B Digital Signature, We think that signing of the bid documents on each and every page will take a lot of time and it will also lead to increase in the size of the document as we will have to scan each and every page. We request you to accept digitally signed bidding documents only.	Provisions of tender are amply clear.
11	Section III	40.1	41	Provision of MSEs	In what conditions this clause will be applicable ?	Provisions of tender are amply clear.
12	Section IV	2.3	5	Construction Water	Explained in Clause 21 of SCC but please explain as per GCC :What will be rate at which Employer will provide the Water ? What will be the source of this water supply and how far will it be from Site ?	The provisions of the tender are amply clear

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Sl. No.	Section No.	Clause No.	Page No.	Subject	Bidders Query	SECI's Reply/ Clarification
13	Section IV	2.4.1	6	Construction Power	Explained in Clause 21 of SCC -What will be the rate at which Construction power will be provided by the Employer ?? Will a drawing of nearest sub station be provided ?	The provisions of the tender are amply clear
14	Section IV	2.5	6	Field Office & Workshop	How far shall be the land that shall be allocated by the Employer for Contractor's office ?? What shall be the rent charged ??	Within GAIL complex on free of charge basis.
15	Section IV	2.4.5	6	Penalty for non performance	What shall be the penalty charged by the Employer if the power factor drops below 0.9.	Tender conditions shall prevail.
16	Section IV	9.1	11	LSTK	As per this clause, this shall not be an EPC job	The provisions of the tender are amply clear
17	Section IV	21.1	14	Priority of Contract Documents	For specifications & works not mentioned in the drawings but sill to be treated as part of job, will Employer give time and cost benefit	The provisions of the tender are amply clear
18	Section IV	23.1	15	Contractor to obtain his own information	Will GAIL/SECI provide a Soil Report	The provisions of the tender are amply clear
19	Section IV	25.1	18	Time of Performance	15 Days will not sufficient as per the present market practices. So, as per the provision of this clause, Time for Mobilisation to be atleast 30 days from NOA	Tender conditions shall prevail.
20	Section IV	25.2.1.	18	Time of Performance	As per the provision of this clause, Time for submission of Project schedule to be atleast 30 days from NOA	Tender conditions shall prevail.
21	Section IV	25.2.3	18	Time of Performance	As per 25.2.2, the time period for submission of PERT network is 15 days from NOA. Hence, the time period for discussion of PERT network should be more than 15 days from NOA	Tender conditions shall prevail.
22	Section IV	59.3	33	Progress of Work	The provision of display board showing staff strength & rate of progress should be deleted	Tender conditions shall prevail.
23	Section IV	65	38	Materials to be supplied by contractor	What shall be the rate at which the Employer shall issue it's material under the provision of this clause	Tender conditions shall prevail.
24	Section IV	71.1	42	Discrepancies between instructions	What is the time period for claiming damages under Suspension	The provisions of the tender are amply clear
25	Section IV	80.1	45	Defects Liability Period	What is the raeson of claiming 100% overheads over the price incurred by the Employer under the provision of this clause ?	Tender conditions shall prevail.
26	Section IV	83.1	48	Training of Employer's Personnel	What about the lodging expensess of such Employer Trainees ?	The provisions of the tender are amply clear
27	Section IV	62.3	37	Drawing review cycle is 21 days.	Is it applicable for every revision? Is there any involvement of consultant? Clause 20.3.1 in SCC indicates 10 days cycle which is contradictory	The provisions of the tender are amply clear
28	Section IV	91.1	53	Notice of Claims for additional payments	Computation within 30 days may not be possible in some cases. Hence initial intimation should be considered for logging claim thereafter	Tender conditions shall prevail.
29	Section IV	109	66	Contractor shall follow Employer's safety codes.	Safety codes to be furnished prior to bidding for estimation and contractor selection instead of issuing at start of work.	The provisions of the tender are amply clear
30	Section V - Part B	14	7	Terms of Payment	Please review the requirement to keep 10% of payment towards PR Demonstration. We request you to please release this payment on operational acceptance.	Tender conditions shall prevail.

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Sl. No.	Section No.	Clause No.	Page No.	Subject	Bidders Query	SECI's Reply/ Clarification
31	Section V - Part B	14	7	Terms of Payment	1. We request you to please provide 20% interest free advance against submission of BG, which can be recovered against running bill at rate of 10%. 2. 60% against receipt of material at site on pro-rata basis 3. 40 % against operation acceptance	Tender conditions shall prevail.
32	Section V – Part B	7.7	4	Performance Guarantee	Radiation and grid should be considered for evaluation generation.	Tender conditions shall prevail.
33	Section V Part A	8.5	13	Contractor's Responsibility	We understand that we'll get MNRE exemption certificate for Excise duty exemption	The provisions of the tender are amply clear
34	Section V -Part A	13	16	Taxes and Duties	From which location the billing will be done? Will GAIL perform the "High Sea Sales" on imported Components?	Tender conditions shall prevail.
35	Section V -Part A	35.6	37	Defect Liability	In addition, the Contractor shall also provide an extended warranty for any such component of the Facilities and for the period of time. – The warranties on the components comes back to back from the OEM to the contractor. The Extension of warranty may not be possible in most cases. Please review.	Tender conditions shall prevail.
36	Section V -Part A	50.1.2	42	Operation and Maintenance	The fault must be rectified within the 24 hours. Please review.	Please refer Corrigendum no.2
37	Section V- Part A	11.2	15	Mobilization Advance	Please clarify regarding " Ready to start work to the entire satisfaction of Engineer-In-Charge.	The provisions of the tender are amply clear
38	Section V- Part A	19.1 19.2 19.3	22	Sub-Contracting	Please clarify whether approval of subcontractors to be obtained prior to start of work	Tender conditions shall prevail.
39	Section V- Part B	25.1	11	Penalty for PR & CUF	What is the maximum cap on penalty for performance and Delay.	The provisions of the tender are amply clear
40	Section V Part-A	48.3		Warranty/Guarantee	The mechanical structures, electrical works and overall workmanship of the grid connected rooftop solar power plant must be warranted for a minimum of 10 years Warranty on Electrical Work can be provided for max. 5 years. Please clarify	Please refer Corrigendum No.2
41	Section VI	5.12 / 15.3.3	11	Structural Analysis of the existing roof top	Please note that Structural analysis of the existing roof top shall be responsibility in the scope of GAIL. Gail shall provide the load bearing strength of the roof in Kg/m2 and confirmation regarding suitability of existing rooftop structure for the installation of Solar PV Rooftop Power plant by providing allowable additional Load Bearing limit in kg/m2 for the both rooftops. The clause No. 5.12 needs to be deleted.	Tender conditions shall prevail.
42	Section VI	5.4	9	System Design and Philosophy	Fault level calculation will be done by State-of –art software such as E-tab, however there is no need to certify it from the organizations listed in the tender.	Tender conditions shall prevail.
43	Section VI	5.14	11	DC cables	The size of DC cable from PV to SMU has been specified 10 Sq mm in the tender. The size should not specified but should be left open for bidders to decide during detailed engineering to meet the voltage drop criteria specified in the tender.	Tender conditions shall prevail.

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44	Section VI	11.3	19	Approvals	Requirement of Statutory approvals	Tender conditions shall prevail.
45	Section VI	29	93	Performance Measurement Procedure	This article should be subject to application for energy generation lost due grid downtime. For the period of grid downtime no energy generation is possible when the grid is down. Grid –Downtime correction has to be applicable while comparing actual PR Vs Guaranteed PR. In other words irradiance for the period of Grid Downtime has to be subtracted from total measured irradiance for calculation of actual PR. Please confirm your acceptance	Tender conditions shall prevail.
46	Section VI	15.7	39	Power Conditioning Unit'	As specified in tender PCUs manufacturers should have commissioned at least 50mw installed capacity in India. This clause needs to be deleted. Please allow 50mw installed capacity in India or abroad. Please confirm your acceptance	Tender conditions shall prevail.
47	Section VI	15.1 (6)	26	Photovoltaic Module	Please review thickness of PV modules glass to be 3.2mm instead of 4mm thickness as specified in the tender.	Tender conditions shall prevail.
48	Section VI	15.1 (15)	28	Photovoltaic Module	Warranty of PV modules against manufacturing defects and workmanship shall be 5 years instead of 10 years as specified in the tender. Please confirm your acceptance.	Tender conditions shall prevail.
49	Section VI	15.7	38	Power Conditioning Unit'	we request you to amend the Subject tender Capacity of 5.76 MWp(DC) to 5.5 MWp(DC) to facilitate matching of Inverter capacities as per tender criteria (refer the Clause No. 15.7, Power Conditioning Unit, Page No.38 of 109 of Section -VI, specifying minimum of 10% additional DC input Capacity in the PCU) as also to optimize the Power evacuation transformer arrangement.	Please refer Corrigendum no.2
50	Section VI	5.24	12	Component and equipment reliability	Modules shall be warranted for a minimum period of 25 years in the Bidder's detailed Warranty / Guarantee certificate. Please review.	Tender conditions shall prevail.
51	Section VI	5.8	10	System Design and Philosophy	Pyranometer- Please mention Type	Please refer Corrigendum no.2
52	Section VI	5.21	12	System Design and Philosophy	Degradation of 0.75% in 1st year not possible. Please review.	Tender conditions shall prevail.
53	Section VI	5.24	12	System Design and Philosophy	Please review Plant availability of 99%	Tender conditions shall prevail.
54	Section VI	12.iii			Water ppm level for cleaning required is above 200ppm. Please confirm	Service water available in that area has total hardness 80 - 110 ppm.
55	Section VI	15.7-2			Please clarify the AC output capacity of the SPV plant.	The proposed 5.76 MWp SPV system is designed as per DC capacity only.
56	Section VI	30.1 & 30.2	94	Civil and Allied works	Please Clarify requirement of contour survey and topographical Survey.	Contour survey is not required. Please refer Corrigendum no.2
57	Section VI	21			Requesting GAIL to provide Auxillary power supply at the solar power plant.	The provisions of the tender are amply clear

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58	Section VI	30.10			Drainage requirement for slanting roof	Adequate drainage facilities is available on existing roofs however, if any modification is required after installation of solar panels/cabling, same shall be taken care by the bidder.
59	Section VI	31			SECI inspection cost. Who will bear?	The provisions of the tender are amply clear
60	Section VI	5.11		System Design and Philosophy	please review Performance ratio of 78%	Please refer Corrigendum no.2
61	Section VI	7.3	14	Design of Complete Plant and Subsystems	Please review the wind speed specified in the tender	Please refer Corrigendum no.2
62	Section VI	15.5	34	DC cables from SMU's to Inverter	The cable should be made of Aluminium	
63	Section VI	15.6 v	36	String fuses	PV Modules already have diodes for reverse current flow protection, also Inverter/PCU has feature to protect current flow from battery/any other source to PV Modules.	Please refer Corrigendum No.2
64	Section VI	15.6.iii	36	General Requirement	Status of Disconnecter Switches and MOV: It is difficult to provide status of MOV	Please refer Corrigendum No.2
65	Section VI	25.1.6. (xiv)	89	Site Summary (Field data and other data)	Please clarify the purpose of Analog I/P Module as RS485/RS232 communication feature is already available with inverter. We take the inverter data from communication port of inverter only. Also please clarify the purpose of Binary I/O Modules	Please refer Corrigendum No.2
66	Section VI	21	83	Auxillary Power Supply System	It is mentioned that 220V DC, 110V AC, 415V AC Auxiliary supply shall be made available from Substation of GAIL. Does 110V DC and 220V AC auxiliary supply will also be made available.	Please refer Corrigendum No.2
67	Section VI	5.5	9 & 10	System Design and Philosophy	Reverse power flow will not be applicable as per the project requirement. Please accept.	Tender conditions shall prevail.
68	Section VI	5.11	10	System Design and Philosophy - Roof Conditions	Please specify the type of roof of both the sites. And also share the drawings of Shed.	Tender provisions are amply clear. However, bidders are advised to visit site as mentioned clause no.2 (Site Visit) of Section-VI of Tender.
69	Section VI	15.1-14	28	Photovoltaic Module	As per standard followed by PV Module Manufacture & IEC 61215 module shall perform satisfactorily in relative humidity up to 85% in place of 95%. So kindly amend & confirm the same. .	Tender conditions shall prevail.
70	Section VI	16.2.6	59	Technical Parameters	As per solar standard, the short time rating for the equipments in switcgear assembly shall be same as 25kA for 1sec. Please accept.	Proposed Solar Power Plant shall be integrated with the existing system of GAIL hence the 33 KV switchgear supplied for this project should match the existing switchgear parameters. Thereby the tender conditions shall prevail.
71	Section VI	5.12		System Design and Philosophy	Please specify the maximum Dead Load distribution permissible on the rooftop.	The provisions of the tender are amply clear
72	Section VI	15.3.7	30	Module Mounting Structure	The module mounting structure has to comply to which of the above material.	Please refer Corrigendum No.2
73	Section VI	15.3.2.7		Module Mounting Structure	Some standard concrete roof designs of are available with minimum clearance of 150mm.Please reduce 300mm to 150mm.	Tender conditions shall prevail.
74	Section VI	15.7		Power Conditioning Unit (PCU)	String Inverters may also be considered and neccesary changes in Control Room and Inverter Rooms may please be incorporated.	Tender conditions shall prevail.

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75	Section VI	12.i	20	Operation and Maintenance	Please confirm required number of manpower in order to have more clarity on manpower requirement.	Adequate supervisory and technical manpower shall be deputed suiting to job requirement and to maintain the plant availability
76	Section VI	5.8	10	System Design and Philosophy	It is recommended to put one Pyranometer on the module plane of east facing roof common for WH-1and WH-2, one Pyranometer on the module plane of West facing roof common for WH-1and WH-2.One Pyranometer shall be fixed on horizontal plane to the earth.	Tender conditions shall prevail.
77	Section VI	15.5 (i)	34	DC Cables (SMUs to Inverter)	It is recommended to keep Average voltage drop of 2.5% for DC cables from Module to SMU to Inverters.	Tender conditions shall prevail.
78	Section VI	2	6	6 Months from the date of notification of award through Fax of Acceptance (FOA)	Please review the completion period of 6 months.	Tender conditions shall prevail.
79	Section VI	15.1 (xiv)	29	Photovoltaic Module	RFID tags shall be allowed outside th madule laminate as IEC standard does not cover RFID tag inside the laminate.	please refer Corrigendum No.2
80	Section VI	30.6	95	Buildings	It is recommended Brick masanary room with puff metal sheet roof and the same can be used for Inverters.	please refer Corrigendum No.2
81	Section VI	1	5	Site Description	We assume that maximum 20% the space out of 65000 SQM can not be utilised for module installation.	Tender provisions are amply clear. However, bidders are advised to visit site as mentioned clause no.2 (Site Visit) of Section-VI of Tender.
82	Section VI	20	81	Plant Illumination System	We assume the plant being operational 24x7 and shall have enough lighting around premises. Providing Light Poles on Rooftop can have shadow impact on the modules during day time. This may not be required.	Lighting poles are not envisaged at the rooftops.
83	Section VI	1	5	Site Description	Please clarify if variation in cable length of 1.5 Kms of HT Cable shall be to GAIL account.	Tender conditions shall prevail.
84	Section VI	1	5	Site Description	Proposed capacity of the plant is 5.76MWp. However there may be a space constraint to accommodate proposed capacity in the given roofs. In such case, would there be any additional space provided by roof.	Tender provisions are amply clear. However, bidders are advised to visit site as mentioned clause no.2 (Site Visit) of Section-VI of Tender.
85	Section VI	8.2	15	Scope of Material Supply	Please clarify the type of cell and module to be considered for solar PV plant(imported or domestic)	DCR is resticted to Module only as per VGF Guidelines of MNRE sanctioned for this project. However cells may be sourced as per the availability to meet the intended project timeline.
86	Section VI	8.16	16	Scope of Material Supply	Please specify the specifications and span of walkways	Please refer Corrigendum no.2
87	Section VI	10.1	17	Transportation Of equipment From works to site, unloading and storage	Please confirm whether GAIL can provide any closed space for the material storage purpose.	Bidder shall develop the suitable storage arrangement at the given open area near the PTD Warehouse as per the recommnedation of EIC/Employer and good enginnering practice.
88	Section VI	11.1 (XVI)	17	Installation (including civil works)	Please specify the location for Inverter room. As the inverters of respective rooftops should be placed nearest To the rooftop buildings (ie. PTT1 and PTT2) , so as to minimise the DC losses. Also specify the Transformer location.	Please refer Annexure I PTD Warehouse Layout of Section VI.
89	Section VI	14	25	Bill of Material (BoM)	Danger sign plates, anti-climbing, bird protection etc. are the part of BOM. Please clarify where the bird protection is required. As the bird protection on the PV modules may cause the shadow on the module surface.	The provisions of the tender are amply clear

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90	Section VI	15.7	38	Power Conditioning Unit -	The inverter supplied shall have minimum of 10% additional DC input Capacity. (E.g. Inverter supplied with rated capacity of 500 kW (AC) shall accept at least 550 kW of DC power.) – Please Specify the DC-AC ratio to be considered. As for the 5.76MWp DC capacity , central inverters with 1:1(AC:DC) configuration is not possible. Also as per the technical datasheet of inverter, the rated DC power can go 20% above the inverter rating.	Please refer Corrigendum no.2
91	Section VI	15.1 (Sl. No. 2)	26	Techinal Specifications	Please amend the clause in tender as under Modules with output of 250 Wp or above shall be used instead of Modules with output of 300 Wp or above shall be used.	Tender conditions shall prevail.
92	Section VI	15.3	31	Techinal Specifications	Section VI on page no. 31 the structures have been mentioned as AL Structures, however on page no. 33 the Module Mounting Structures have been mentioned as Hot Dipped Galvanized Structures, Kindly clarify.	Please refer Corrigendum no.2
93	Section VI	5.2	9	System Design and Philosophy	Please clarify the boundary conditions of High Voltage and Frequency fluctuations	The following is clarified: Frequency -5%, +3% Voltage +/- 10%
94	Section VI	5.8	10	System Design and Philosophy	please clarify while calculating PR, average raditation data of all pyranometers will be considered.	It is clarified that Radiation data measured at PTD WH#1 shall be considered for measuring the PR. The Pyranometer to be installed at PTD WH#2 shall be used as backup/cross reference.
95	Section VI	5.11	10	System Design and Philosophy	Please clarify whether skylights of shed roof can be utilised for module mounting and RCC roof location and details to be provided.	The provisions of the tender are amply clear
96	Section VI	8.16	16	Water supply Arrangements on the rooftop for Module cleaning etc.	Please clarify life line, walkway and water drainage is available on roof.	Please refer Corrigendum No.2 Regarding drainage, adequate drainage facilities is available on existing roofs however, if any modification is required after installation of solar panels/cabling, same shall be taken care by the bidder.
97	Section VI	11.1.VIII	17	Installation (including civil works)	Please allow to use existing cable trays wherever available.	Existing cable trays may be used as per the space availability. In places where non-availability of space in the existing cable trays, bidder has to make necessary arrangement for cable trays .
98	Section VI	11.1.X	18	Installation (including civil works)	Please specify the interconnection point at GAIL substation HT panel & provision for connecting the Incomer.	The provisions of the tender are amply clear
99	Section VI	11.1.XII	18	Installation (including civil works)	SCADA will be provided only upto MCR room of solar plant. Please Accept.	The provisions of the tender are amply clear
100	Section VI	11.1.(xvi)	18	Installation (including civil works)	Please specify the minimum size of the control rooms as per GAIL standards and location.	Please refer Corrigendum No.2
101	Section VI	15.1- 6	26	Toughened low iron glass with minimum thickness of 4.0 mm for 72 cell module	For domestic modules only 3.2 mm thick toughend low iron glasses are provided. Pleas accept.	Tender conditions shall prevail.

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102	Section VI	15.5.i	34	DC Cables (SMUs to Inverter)	Total DC cable Voltage drop will be 1.5% in average from Array to Inverter. Individual cable voltdrop will not be calculated. Please accept.	Tender conditions shall prevail.
103	Section VI	15.7.2	38	Power Conditioning Unit (PCU)	Inverter manufacturers allow upto 20 % of over loading. Please accept 20% DC overloading for better conversion efficiency.	Please refer Corrigendum No.2
104	Section VI	15.7.10	39	Power Conditioning Unit (PCU)	Spare fuse holder will not be provided by inverter manufacturer. Please accept	Tender conditions shall prevail.
105	Section VI	15.7.13	40	Power Conditioning Unit (PCU)	Inverter takes 5 mins for start-up. Immediated synchronisation with captive bus will not be possible. Please accept.	Tender conditions shall prevail.
106	Section VI	16.1.3 (xii).5	51	Constructional details of indoor switchboards	Please accept MFM as well for Indoor switch boards	Please refer Corrigendum No.2
107	Section VI	16.2.6- 5	59	Technical Parameters	Inverter Neutral will be Unearthed as well as Transformer Primary Neutral point. Please accept.	Tender conditions shall prevail. This is for 33 KV system.
108	Section VI	18.5	79	Metering	Please specify the ABT metering point at S/S end.	The provisions of the tender are amply clear
109	Section VI	20.1	81	Plant Illumination System	Please specify the points from where DC supply will be taken	The provisions of the tender are amply clear
110	Section VI	21	83	Auxillary Power Supply System	Please provide Auxiliary supply from GAIL S/S for all auxiliary loads at SPV plant.	Please refer Corrigendum No.2
111	Section VI	30.7-28.6.5	96	RCC Works	Shed roof water proofing is not required as MMS will come with EPDM rubber gasket. Please accept. Please specify Shed roof puncturing is allowed or not	The provisions of the tender are amply clear
112	Section VI	32.v.a	101	Performance and functional warrnaty/gurantees	SPV modules are only warranted for 25 years of energy output. Please accept.	Tender conditions shall prevail.
113	Section VII	SP-5			Scada spare - Please clarify what is required.	The provisions of the tender are amply clear
114	General			Modality of Contract	Please confirm whether GAIL will issue two separate orders one for supply and the other for installation commissioning.	Tender conditions shall prevail.
115	General			Getting approval and VGF Govt. Of India	Please confirm that the bidder is supposed to give only technical support to GAIL for getting VGF. Responsibility of getting VGF shall not be bidders but solely of GAIL. Please confirm your acceptance.	Bidder to provide all necessary support to GAIL/SECI to get the VGF.
116	General			33 KV Power Line	Said power line is under ground or Over head??	The provisions of the tender are amply clear
117	General				As tender says power evacuation point is in GAIL premises (Approx 1.5 Km away from project site) it means there will no question of ROW for laying of power line of 33 KV. Please confirm.	Tender is amply clear. All work is within the boundary limit of GAIL Complex.
118	General				If transmission line of 33 KV is under ground, pleaseconfirm cable trench availability on meter (distance) basis till power evacuation system	Biddet is required to assess as per system design and site conditions.
119	General			Point of generation measurement for PR Demonstration	Please confirm point of generation measurement- At plant site or at power evacuation point (which is 1.5Km away from plant site)?	Tender conditions shall prevail.

**Clarification No.1 to Tender Document for Design, Engineering, Manufacture, Supply, Storage,
Civil Work, Erection, Testing & Commissioning of 5.76 MWp (DC) Grid connected Rooftop solar PV Plant including O&M of the Plant for a period of 5 years
(Tender No.GAIL/SECI/PC/W-171/SOLAR PV/2016 (E-Tender No. 8000010172))**

Sl. No.	Section No.	Clause No.	Page No.	Subject	Bidders Query	SECI's Reply/ Clarification
120	General			Approved Makes	Please provide list of approved makes for major items of Project.	Tender conditions shall prevail.
121	General			Others	Please specify whether we need to consider the expenses incurred during the inspection of components to be done by GAIL representatives.	The provisions of the tender are amply clear
122	General			Others	There are various chimneys, trees & structures as per google image around the WH 1 & WH2. The DC capacity may come down considering Shadow effect across the day.	Tender conditions shall prevail.
123	General			Others	The trees around the roofs have to be trimmed to avoid any shadow on the modules.	Tender conditions shall prevail.
124	General			Others	Bidder shall carry out structural analysis of roof. The structure analysis shall be vetted by an independent certified structure engineer/consultant. Please provide the structural analysis for accurate cost estimation	Tender conditions shall prevail.
125	General			Others	Please clarify whether Road Permits shall be provided by Employer ?	Yes, Employer shall issue the necessary road permit to the contractor.
126	General			Others	Please clarify whether any Entry Tax is applicable in State of UP	Bidder shall check the applicability of various taxes as per the UP State policy and regulations.
127	General			Others	Please clarify about the Arbitration clause ?	The provisions of the tender are amply clear
128	General			Others	Please clarify the value of stamp duty for UP state ?	Bidder to check
129	General			Others	What is the delivery Period ?	The provisions of the tender are amply clear
130	General			Others	Please clarify whether Employer shall give LC for payment of the Contractor ?	The provisions of the tender are amply clear
131	General			Other	Please share the rooftop Drawings and structural Drawings and electrical SLD.	Electrical SLD is provided at Annexure II (Section VI). For other, please refer amendment # 1
132	Formats	F22	132	General	Please confirm the stamp duty of Indemnity Bond .	As per prevailing rates in Delhi state.
133	General				Please provide Height of the Silos and Extruder for shadow analysis based on which plant capacity will be estimated	Please refer Corrigendum no.2
134	General			General	Fixing of structures will be on trusses/purlin & walkways on the sheet. Please confirm.	Bidder shall design the system as per prevailing good engineering practice with due approval from EIC.
135	General			General	Will road permit be issued	Yes, Employer shall issue the necessary road permit to the contractor.
136	General			General	Bidder requests that 5.76 MW DC shall be provided by bidder and AC will be designed so as to fulfil the functional guarantees.	The proposed 5.76 MWp SPV system is designed as per DC capacity only.
137	General			General	Switchgear, CT, PT, Meter at Feeder No. 19 side will be in scope of Bidder or GAIL, please confirm.	It is under the Bidders scope.

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Sl. No.	Section No.	Clause No.	Page No.	Subject	Bidders Query	SECI's Reply/ Clarification
138	General			General	Clarification on Effect of GST on taxes.	Bidder to refer clause no.12.5 of Section-III and 13.7 of Section-V of Part-A
139	General			General	Power evacuation/ Interconnection sub-station is Indoor/Outdoor. Please provide details.	The provisions of the tender are amply clear
140	General			General	LCR, MCR, Power Transformer and Auxiliary transformer proposed location to be informed	Please refer Annexure I PTD Warehouse Layout of Section VI.
141	General			General	Please specify whether 33 kV evacuation system requires Neutral point connection (4- Wire system) or not.	Neutral Point connection is not required.
142	General			General	Please let us know whether NSIC Certificate shall suffice for us to be exempted from EMD and tender fees.	The provisions of the tender are amply clear.

Note: This Clarification no.1 shall form an integral part of the Tender document and shall be digitally signed and submitted along with the bid.

For & on behalf of
SECI Limited on behalf of GAIL (India) Limited

CORRIGENDUM NO. 2

Tender No. : GAIL/SECI/PC/W-171/SOLAR PV/2016 (E-Tender No. 8000010172)
Job : Design, Engineering, Manufacture, Supply, Storage, Civil Work, Erection, Testing & Commissioning of MWp (DC) Grid connected Rooftop solar PV Plant including O&M of the Plant for a period of 5 years 5.76

The terms, conditions and specifications of the Tender document reference cited hereunder are modified to the extent indicated under column "MODIFICATION / ADDITIONS / DELETIONS ". All other terms & conditions of the Tender document shall remain unaltered.

Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
1	Section I [Invitation for Bid]	2	---	6	The brief details of the tender are as under: The following sub-clause is added with respect to Paying Authority : "(L) Paying Authority: General Manager (F&A), GAIL (India) Limited, Pata Petrochemical Complex, Dist . Auraiya , U.P-206241."
2	Section II Section III (ITB)			12 25	Kirshi Kalyan Cess (KKC) Evaluation Methodology, Service Tax and elsewhere in Tender Document : Krishi Kalyan Cess (KKC) is a non-cenvatable tax and all the terms & conditions of Tender Document applicable for Swachh Bharat Cess shall also be applicable mutatis-mutandis for Krishi Kalyan Cess also. Accordingly, wherever 'Swachh Bharat Cess' is appearing in the Tender Document [like Evaluation Methodology (clause E, Section II, Page 12), Service Tax (clause 13, Section II, Page 25) and elsewhere in the tender document], the same may be read as 'Swachh Bharat Cess & Krishi Kalyan Cess'.
3	Section III (ITB)	16.10	--	30	New clause is added: The Bank details of GAIL are as under: Bank Name- STATE BANK OF INDIA

CORRIGENDUM NO. 2

Tender No. : GAIL/SECI/PC/W-171/SOLAR PV/2016 (E-Tender No. 8000010172)
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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
					Branch Name-CAG II, New Delhi Branch Code- 017313 IFSC- SBIN0017313
4	Section III (ITB)	38.1	--	39	Contract Performance Guarantee The following is added at the end of 2 nd para : “Alternatively, Bank Guarantee for O&M Contract can be submitted by the successful Bidder/Contractor with initial validity of 36 months followed by amendment / renewed Bank Guarantee incorporating further validity of another 27 months (totalling to 63 months as per tender requirement), failing which initial BG shall be forfeited.”
5	Section III (ITB)	38.5 (new clause)	--	40	Contract Performance Guarantee: The following is added as clause no.38.5 : Non-acceptance of O&M Contract or failure to submit Performance Bank Guarantee towards O&M Contract shall lead to forfeiture of Performance Bank Guarantee submitted against LSTK Contract.
6	Section V Part A	48.3	--	41	Warranty / Guarantee The sub-clause is modified as under “48.3 The mechanical structures, electrical works and overall workmanship of the grid connected rooftop solar power plant must be warranted for a minimum of 5 years.”
7	Section V-Part A	50.1.2	--	43	Breakdown / Corrective maintenance: "24 hours" mentioned at various places in the clause is replaced by "48 hours".

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
8	Section V-Part B	25.1	---	11	<p>Penalty for PR and CUF deviations</p> <p>The clause is modified as under:</p> <p>“While testing the Plant for Operational Acceptance, any shortfall in the Performance Ratio (PR) as determined through the PR Test Procedure specified in Section VI: Specifications, Scope of Work and Drawing, will attract imposition of Penalty. For every 0.01 shortfall in PR below 0.75 by the bidder, a Penalty of 0.5% of the total LSTK/EPC Contract Value shall be levied. In case the Plant PR result is 0.05 below 0.70, i.e., 0.70 or lower, the total performance bank guarantee submitted by the bidder for LSTK will be encashed. In case the Performance guarantee has already been encashed, the due amount of CPBG for LSTK will be recovered from the Final Instalment of the LSTK/EPC contract payable at the end of the first year (as per the Terms of Payment specified in Clause 14 of SCC Part-B).</p>
9	Section V-Part B	25.2		11	<p>Penalty for PR and CUF Deviations:</p> <p>The text "24 hours" mentioned in the sub-clause is replaced by "48 hours".</p>
10	Section V-Part B	26	26.5 (New Sub-clause)	13	<p>The following is added as sub-clause 26.5:</p> <p>"Health, Safety and Environment requirement</p> <p>NORMS RELATED TO PENALTY AGAINST VIOLATION OF SAFETY, HELTH AND ENVIRONMENT:Annual health checkup for the deployed</p>

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
					workers is mandatory and its report to be submitted to EIC. Against violation of applicable Safety, Health and Environment related norms, a penalty of Rs. 10,000.00 per occasion. Guidelines for imposition of penalty against Safety, Health and Environment related norms:-I. For first time violation of safety rules & regulation by any contractor, HOD (F&S) will issue a warning letter to contractor with intimation to OIC, Pata and EIC.II. In case of second time violation of safety rules & regulations by same contractor, OIC, Pata will call contractor in person and will have a meeting to discuss reason for repetitive violation along with EIC and HOD (F&S). A warning letter will also be issued by EIC to contractor.III. In case of further violation, punitive fines will be imposed on contractor. Amount of fine will be decided as per severity of violation of safety. However, minimum fine would be Rs.10,000/- and in multiple of Rs.10,000/-, thereafter. This will be limited to 5% of contract value, as maximum cumulative penalty.Violation as above resulting In:2.1.1 Any physical injury, a penalty of 0.5% of the contract value (Maximum of Rs. 2,00,000.00 per injury in addition to Rs. 10,000.00 as in item no. 12.1.2 Fatal accident, a penalty of 1% of the contract value (maximum of Rs 10,00,000.00) per fatality in addition to Rs. 10,000.00 as in item no. 1Please refer Annexure I (Section V-Part B) for HSE requirements.”
11	Section VI [Specifications, Scope of Work and Drawing]	A	1	5	Min. values of PR and CUF of the Plant after netting of the auxiliary consumption specified under Site Description is modified by the following: "Performance Ratio (PR) : 0.78 & Annual CUF 15% (against installed DC capacity at STC) " and is modified as "Performance Ratio (PR): 0.75 & Annual CUF 15% (against installed DC capacity at STC)"

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions	
12	Section VI [Specifications, Scope of Work and Drawing]	5.8	--	10	The following is added at the end of clause: Specification of the pyranometer shall be as follows:	
					Details	Values
					Spectral Response.	0.31to2.8micron
					Sensitivity	Min7micro-volt/w/m2
					Time response (95%):	Max15s
					Nonlinearity:	±0.5%
					Temperature Response:	±2%
					Tilt error:	<±0.5%.
					Zero offset thermal radiation:	±7w/m2
					Zero offset temperature change	±2w/m2
					Operating temperature range:	0 deg to+80 deg.
					Uncertainty(95%confidence Level):	Hourly- Max-3%, Daily- Max-2%
					Non stability:	Max±0.8%
					Resolution:	Min+/- 1W/m2
Input Power for Instrument & Peripherals:	230V a.c.(If required)					

CORRIGENDUM NO. 2

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
13	Section VI [Specifications, Scope of Work and Drawing]	C	5.11	10	Roof Conditions The 8 th line of the clause is modified by the following: “.....optimise the system design such that the best yield (i.e. 75% PR and 15% CUF) from....”
14	Section VI [Specifications, Scope of Work and Drawing]	D	7.3	14	Designing of complete plant and subsystems: The 1 st line of the clause is modified by the following: "Contractor shall design their SPV panel structure according to wind load (47meter/sec)".

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
15	Section VI [Specifications, Scope of Work and Drawing]	8.16		16	<p>Scope of Material Supply</p> <p>The following Para is added at the end of clause:</p> <p>“ Bidder shall design the walkways of adequate width and spacing such a way that the roofs are optimally utilised for installation of PV modules. The walkways should be provided across the roof and crossing should be provided at regular intervals so that the personal can easily walk and approach each and every module during construction & O&M period.The walkways shall be made of hot dip galvanized MS profiles/ hot rolled/ cold formed steel sections. Galvanization thickness shall be of min 80 micron. Galvanization of the mounting structure shall be in compliance of latest IS 4759. The thickness of structure should be at least 3 mm. It should be the responsibility of the bidder to optimise the design and the available rooftop space to accommodate the 5.76 MWp DC capacity SPV power plant includings the walkways and get it approved from EIC.In addition to this, bidder shall also provide adequate provision of safety lines at appropriate locations and sloped boarders of the roof for safety.”</p>
16	Section VI [Specifications, Scope of Work and Drawing]	10.2	----	17	<p>Transportation of equipment from works to site, unloading and storage:</p> <p>The following is added at the end of the para:</p> <p>"GAIL will issue the necessary road permits to the contractor for smooth transportation of the equipment/materials pertaining to the project."</p>

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
17	Section VI [Specifications, Scope of Work and Drawing]	11.1	ix	18	<p>Installation and Commissioning:</p> <p>The last sentence of the para “Suitable protection.....suitable grade” is deleted and the following is added as 2nd para:</p> <p>“Suitable protection i.e. Hume pipe of NP3 grade. The Cable from Control room to SS#1 shall be travelled initially in the Cable Trenches which would be developed by the contractor (i.e.up to SS#12) and further it shall follow the existing cable route of the site upto SS#1. The RCC cable trench shall be of minimum 1 meter depth and 0.5 m width and RCC joint markers shall be provided wherever required. The voltage grade of the higher voltage cables in route shall be engraved on the marker. Location of underground cable joints shall be indicated with cable marker with an additional inscription "Cable Joint". The marker shall project 150 mm above ground and shall be spaced at an interval of 30 meters and at every change in direction. They shall be located on both sides of road crossings (Hume pipe with NP3 grade) and drain crossings (Hume pipe with NP2 grade), if available. Top of cable marker/joint marker shall be sloped to avoid accumulation of water/dust on marker.”</p>
18	Section VI [Specifications, Scope of Work and Drawing]	13.2	(i)	23	<p>Drawings & Documents</p> <p>"Contour Plan" is replaced by “Site Plan”.</p>
19	Section VI [Specifications, Scope of Work and Drawing]	F	15.1	27	<p>Wind Speed at sl. no. 13 under Photovoltaic Modules:</p> <p>The text is modified by the following:</p> <p>“Modules should have rugged design to withstand tough environmental</p>

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
					conditions and high wind speeds (minimum up to 47 meter/sec)".
20	Section VI [Specifications, Scope of Work and Drawing]	F	15.1	29	<p>Photovoltaic Modules</p> <p>The text under sub-clause (xiv) "Modules deployed must use a Radio Frequency Identification RFID) tag for traceability. It should be well protected within the module laminate and containing the following information...." Is modified as under:</p> <p>"Modules deployed must use a Radio Frequency Identification RFID) tag for traceability. It should be well protected inside/outside the module laminate and containing the following information.....".</p>
21	Section VI [Specifications, Scope of Work and Drawing]	F	15.3	31	<p>Module Mounting Structure</p> <p>The sub-clause 7 is modified as under:</p> <p>"The array structure shall be made of Aluminium alloy structure sizes with weather protection coating in case of sloped roof and hot dip galvanized MS profiles/ hot rolled/ cold formed steel sections in case of Flat Roof. The coating of structure shall be as per relevant standards. The structural design need to be approved by Certified Structural Engineer / Agency. Following or better type of mounting structure with clamps and waterproofing arrangement as shown in below photos are proposed to be used for mounting solar PV modules on inclined Metallic roof. Contractor shall submit a structure design for the approval of EIC/Employer. The below shown photos are indicative and for reference purpose only."</p>

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
22	Section VI [Specifications, Scope of Work and Drawing]	F	15.3.2	33	Technical Requirements The text under sl. no. 2 is modified by following: "The module mounting structure members would be made of Aluminium alloy structure in case of sloped roof and hot dip galvanized MS profiles/ hot rolled/ cold formed steel sections in case of flat roof. Galvanization thickness shall be of min 80 micron. Galvanization of the mounting structure shall be in compliance of latest IS 4759."
23	Section VI [Specifications, Scope of Work and Drawing]	15.5	--	34	DC Cables (SMU's to Inverter): "Copper Conductor" in the 2 nd line is modified as "Aluminium Conductor".
24	Section VI [Specifications, Scope of Work and Drawing]	15.6	iii.6.e	36	General Requirement: The text "Status of Disconnect Switches and MOVs" is modified by the following: "Status of Disconnect Switches and MOVs shall be with visual indication (through mechanical flag)"
25	Section VI [Specifications, Scope of Work and Drawing]	15.6	v.	36	String Fuses The last sentence of sub-clause (v) " String fuses should be so designed that it should protect the modules from reverse current overload." is deleted.
26	Section VI [Specifications, Scope of Work	F	15.7	38	Power Conditioning Unit (PCU): The sub- clause 2 is modified as under:

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
	and Drawing]				"The bidder shall supply all inverters of uniform rating to ensure standardisation, interchangeability of the equipment. The power capacity of inverter in kW should not less than the cumulative DC capacity of the solar array. "
27	Section VI [Specifications, Scope of Work and Drawing]	16.1.3	xii	51	Constructional Details of Indoor Switchboards The text "TVM + MD meter"at point no 5 is modified as " "TVM + MD meter + Multi Function Meter (MFM)"
28	Section VI [Specifications, Scope of Work and Drawing]	21	--	83	Auxiliary Power Supply System” The following is added at the end of para "Each Inverter.....detailed below": "However, Bidder shall make adequate arrangements at his own for Auxiliary Power requirements at any other level as per the requirement. Also Bidder is required to maintain the Sizing of the cable by taking into account the permissible voltage variation limits"
29	Section VI [Specifications, Scope of Work and Drawing]	23	(ii)	84	Weather Monitoring Station The clause is modified as under: “Pyranometer: The contractor shall keep the adequate provision for measurement of solar isolation by means of placing of 6 number of Pyranometer as per the various tilt angle of the rooftop space and Modules in order to analysis the actual plant performance. One of them shall be placed on horizontal surface and the other on adjustable inclined plane.

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
30	Section VI [Specifications, Scope of Work and Drawing]	25.1.6	xiv	90-91	<p>Site Summary (Field Data) and other data:</p> <p>The clause is modified as under:</p> <p>Contractor shall provide the I/Os to be connected to each type of module at control room/Inverter room for followings (included but not limited to):</p> <p>a. Analog Input Module</p> <ol style="list-style-type: none">1. WTI, OTI of all the transformer of capacity more than 50 KVA.2. Ambient Temperature --- 01 Nos3. Module Temperature-----01 Nos4. Meteorological Parameters (GHI, wind speed etc) <p>b. Binary Input Module</p> <ol style="list-style-type: none">1. All the breakers2. Bucholz, WTI, OTI, Pressure Relief Valve, Magnetic Oil Gauge of all the Transformers <p>c. Binary Output Module:</p> <ol style="list-style-type: none">1. All the breakers
31	Section VI [Specifications, Scope of Work and Drawing]	26	--	92	<p>The following para with respect to Surplus Material is added at the end of the clause:</p> <p>“Bidder shall submit the Bill of Material (BOM) within 15 days of issuance of FOA. BOM shall be approved by the EIC. Any surplus material beyond the BOM of the contractor shall be returned to the Contractor with the approval of EIC after successful demonstration and approval of Performance Ratio as mentioned</p>

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
					in Performance Measurement procedure"
32	Section VI [Specifications, Scope of Work and Drawing]	29.2	i. (c)	94	Monitoring System for PR Verification: Sub-clause (c) is modified as under: "3 nos. (Wh1 (East), Wh1 (West), Wh1 Flat roof) of calibrated pyranometer to determine irradiance on the plane of array (with a target measurement uncertainty of ± 2)."
33	Section VI [Specifications, Scope of Work and Drawing]	H	30.1	94	Detailed Contour Survey of the Site: The word "Contour" is deleted from the heading and the text of the clause.
34	Section VI [Specifications, Scope of Work and Drawing]	H	30.2	94-95	Topographical Survey: The clause Topographical survey is modified as under: "Survey: The configuration of the proposed rooftop power plant have to be fixed with reference to wind speed of the proposed site. The structures shall be designed and mounted taking into consideration the rooftop Structure of the Warehouses. Accordingly, detailed drawings of the same shall be submitted to EIC for approval."
35	Section VI [Specifications, Scope of Work and Drawing]	H	30.6	95	Buildings: The following is added at the beginning of the para "Bidder will require.....as under:" :

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Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
					"Plant buildings are required to be constructed for housing the electrical equipment/ panel (Local Control Room Building - LCR) and control room with office cum store facilities (Main Control Room Building - MCR) for operation and maintenance of Photovoltaic Solar Power Plant. 1. All buildings except Security room/ cabin shall have RCC framed structure and brick panel/ partition walls.2 The Plant building design shall be as per the OEM requirements to ensure desired life of equipment.3.The contractor shall submit the proposed layout drawings to the EIC / Employer for approval before development of Architectural drawings.4. The building layout, exterior elevations shall be aesthetically designed following good architectural practices to get a please look, Horizontal/ vertical bands through projections/ groves in external plaster may be provided to break the monotony.5. Roof slab shall have projection of 400mm beyond external walls with 500mm parapet wall all around for smooth drainage of rain water which shall form a projected band at roof level.6 All doors and windows shall be provided with 450mm RCC chajja for weather protection7.The construction of the buildings shall be as under;i. Main Control Room (MCR) BuildingFor operation & maintenance of SPV Plant MCR building shall provide followingfacilities;a. Air conditioned area (with provision of split A/C unit of adequate capacity) for SCADA room (min. 16 Sqm)b. Inverter/ Switchgear, equipment room(s) as per requirementc. Store cum record room (min. area 20 Sqm)d. There shall be suitable provision for easy/ smooth passage for O & M personnel, cable trenches etc.ii. LCR/ Inverter Building.a. Inverter room/ LCR consists of data loggers, battery, Inverter, Electrical panels etc. as per requirement.b. There shall be suitable provision for easy/ smooth passage for O & M personnel, cable trench, repair & replacement of the installed equipments etc."

CORRIGENDUM NO. 2

Tender No. : GAIL/SECI/PC/W-171/SOLAR PV/2016 (E-Tender No. 8000010172)
Job : Design, Engineering, Manufacture, Supply, Storage, Civil Work, Erection, Testing & Commissioning of MWp (DC) Grid connected Rooftop solar PV Plant including O&M of the Plant for a period of 5 years 5.76

Sl. No.	Section	Clause	Sub-clause	Page no.	Modifications/Additions/Deletions
36	Section VI [Specifications, Scope of Work and Drawing]	30.7	--	96	RCC Works The typographical errors with respect to serial numbers of sub clauses are corrected and modified as under: 28.6.1 is modified as 30.7.1 28.6.2 is modified as 30.7.2 28.6.3 is modified as 30.7.3 28.6.4 is modified as 30.7.4 28.6.5 is modified as 30.7.5 28.6.6 is modified as 30.7.6 28.6.7 is modified as 30.7.7 28.6.8 is modified as 30.7.8 28.6.9 is modified a s 30.7.9
37	Section VI [Specifications, Scope of Work and Drawing]	--	--	--	Drawings & Documents: Further to Annexure- I & II, the following Annexures are added: Annexure III: PTD Warehouse Drawings Annexure IV: Drawings related to Silos height

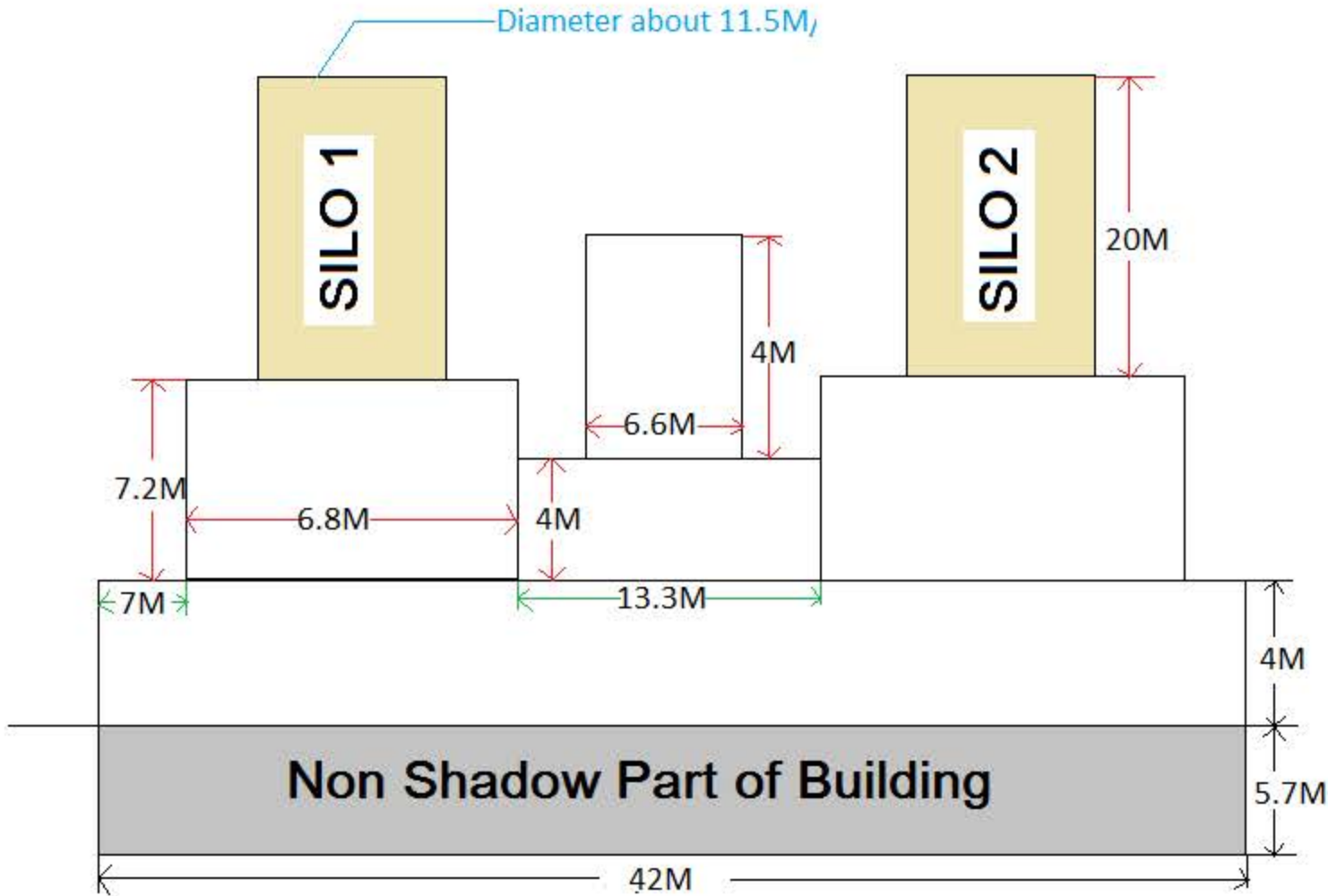
Note: This Corrigendum no.2 shall form an integral part of the Tender document and shall be digitally signed and submitted along with the bid.

For & on behalf of

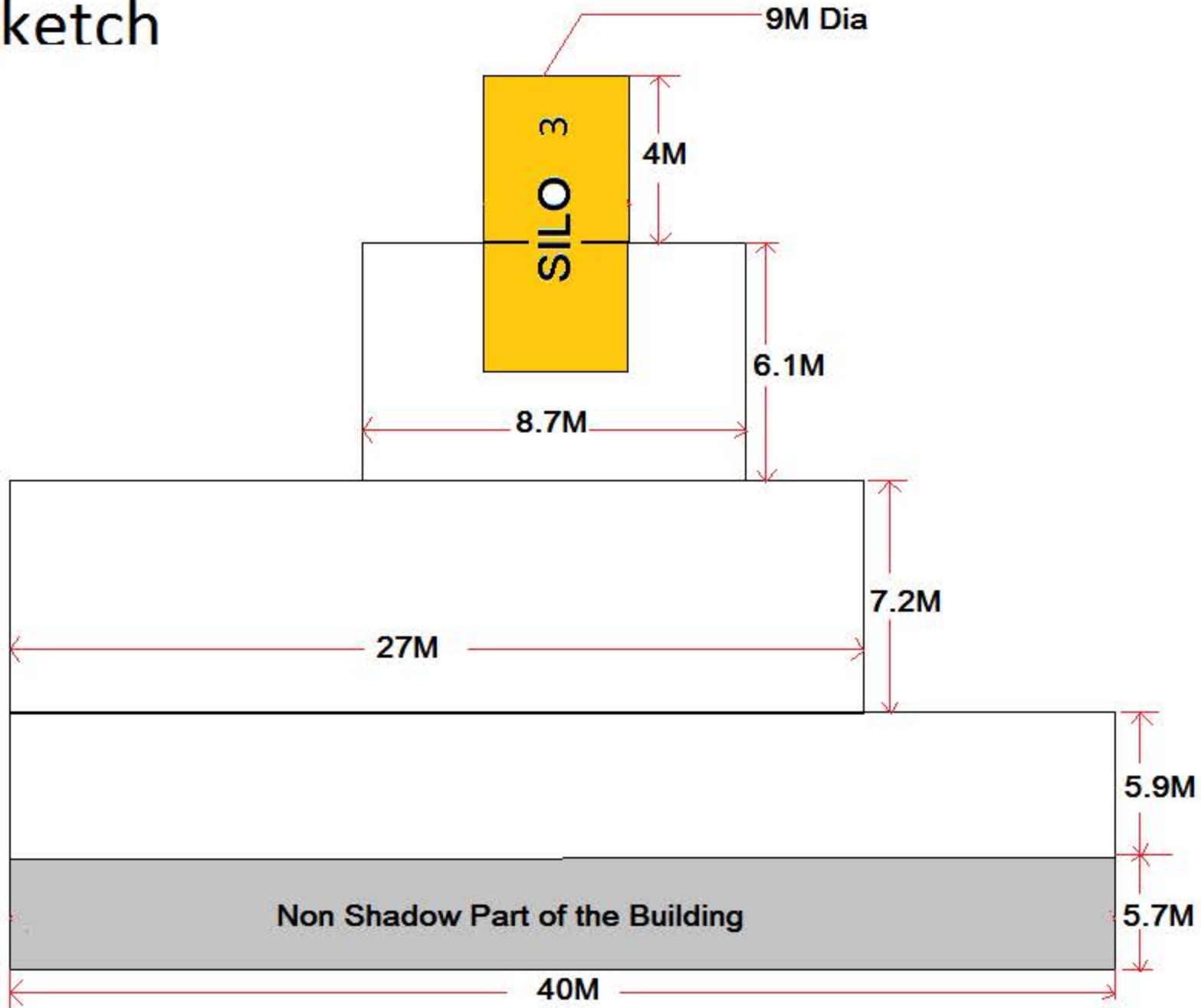
SECI Limited on behalf of GAIL (India) Limited

	अनुभाग	कार्य संख्या				इकाई	विभाग	अनुभाग	आरेख संख्या				सं.का.			
	SCALE	JOB NO				UNIT	DEPT	SECTN	DWG NO				REV			
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<div style="display: flex; justify-content: space-between;"> EX-501 AO-1100 x 841 DISTRIBUTION CODE </div>																

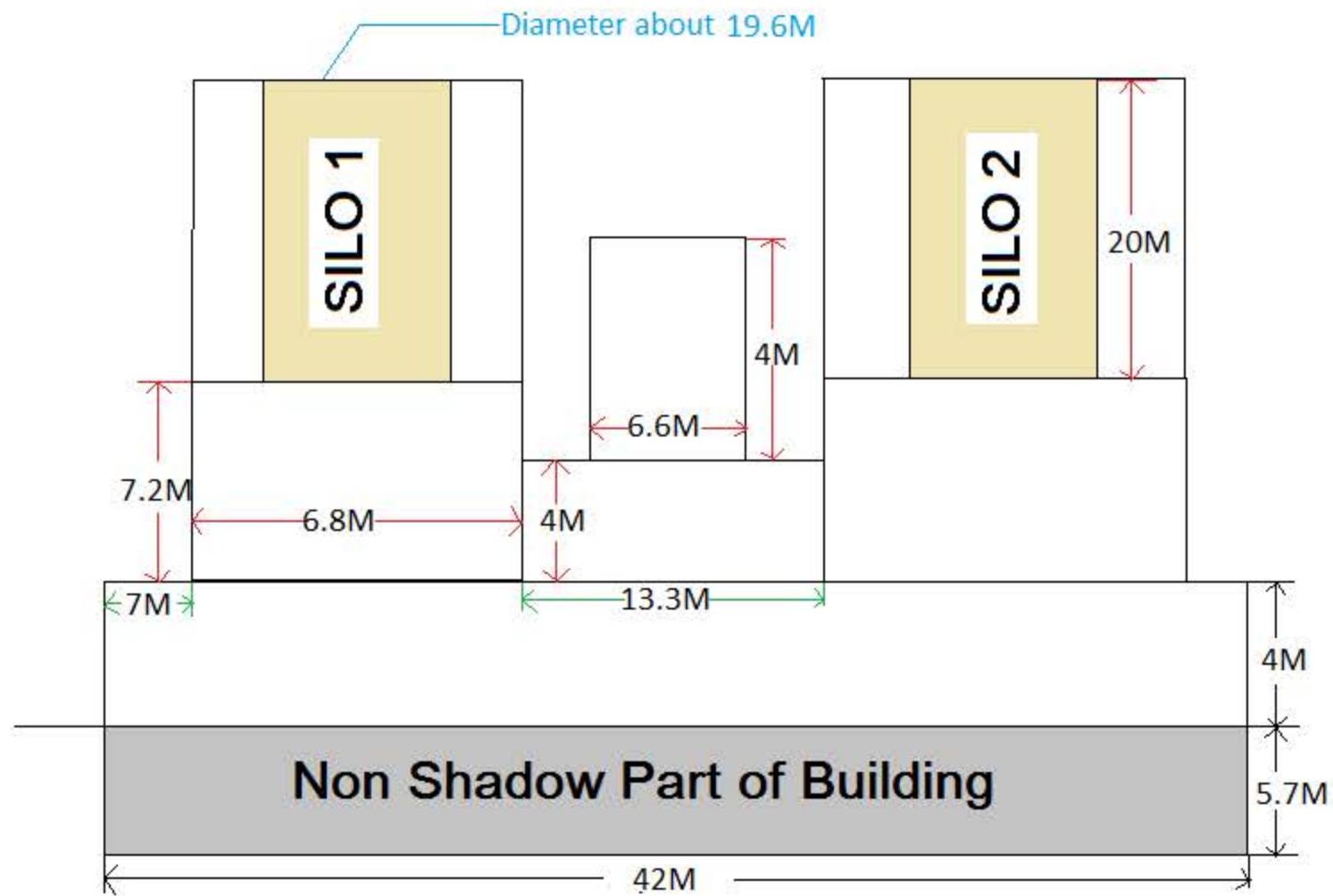
Ware House 1 Silo's Sketch



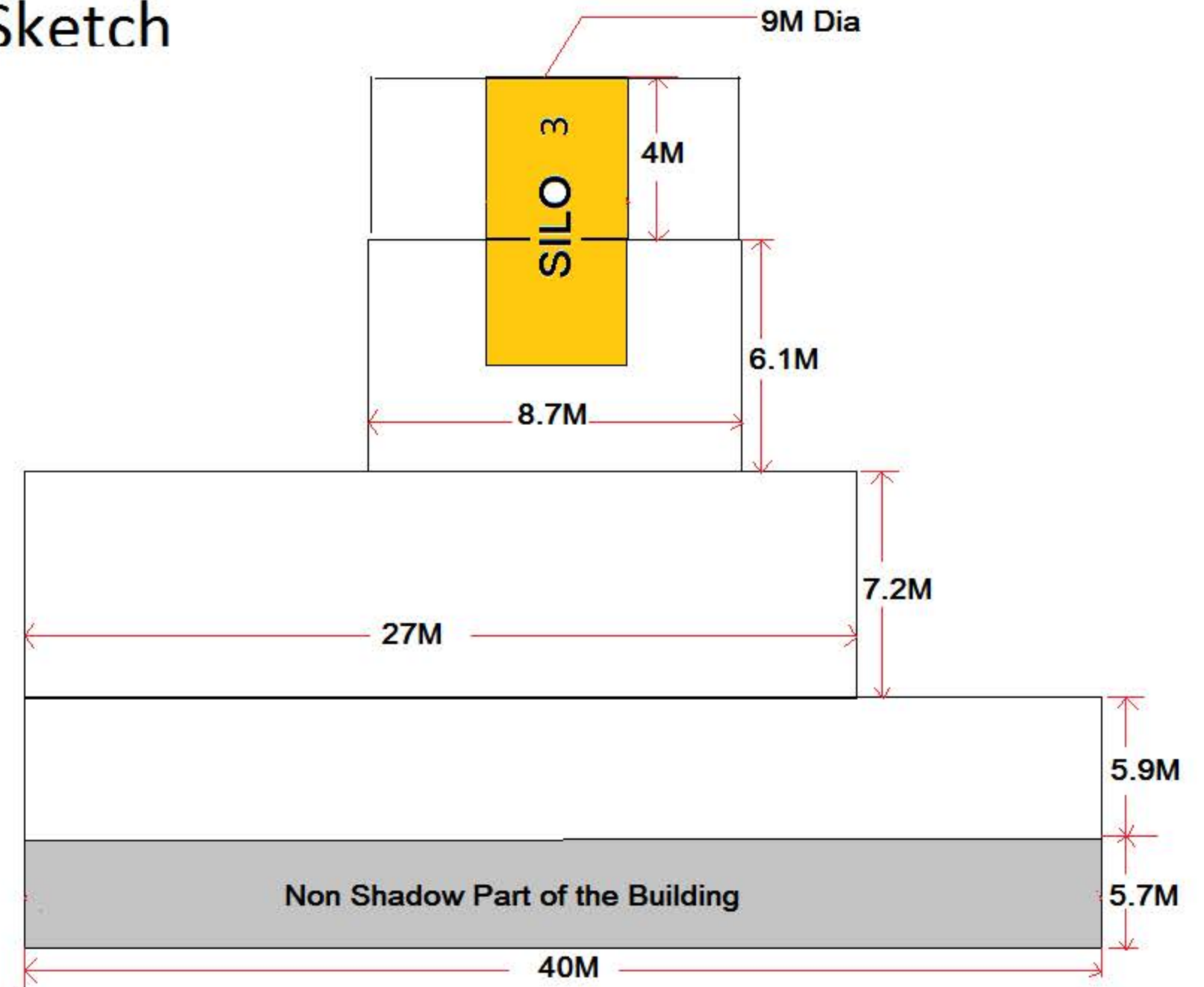
Total 3 Silo's Height of Silo 1 & 2 - 37 Meter
 Height of Silo 3 - 29 Meter



Ware House 2 Silo's Sketch



Total 3 Silo's Height of Silo 1 & 2 - 37 Meter
Height of Silo 3 - 29 Meter



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Tender No. : GAIL/SECI/PC/W-171/SOLAR PV/2016 (E-Tender No. 8000010172)
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Annexure-I to Section-V

HSE requirement

1. Requirement of health safety and environment management system to be complied by bidders.
2. Contractor should have HSE safety policy
3. Deployment of qualified safety Engineer and safety supervisor.
4. Fire prevention and first aid arrangement.
5. Contractor shall carry out HSE audit.
6. Contractor shall ensure participation of his top most executives at site in safety committee meeting.
7. Penalty clause is already provided
8. Contractor shall ensure high degree of housekeeping.
9. Contractor shall carry out JSA and submit to GAIL / consultant.
10. PPE's
11. Use of mobile inside the plant is prohibited.
12. Work permits systems.
13. Specialized equipment's for work at height job like sufficient number of safety net of different sizes, fall arrestors, 8- 10 mm GI wire rope life line, double lanyard safety belts etc.
14. Good quality scaffolding arrangement and barricading
15. Electrical installation as per OISD – 173 (fire prevention and protection system of electrical installations), SP-30(BIS)
16. Contractor shall deployed qualified and licensed electrician.
17. Welding / gas cutting set as per BIS-6158
18. Good quality Tools and tackles
19. Ensure installation of safe load indicator on all the cranes / hydra.
20. All the workmen engaged with the project shall be physically fit and the health checkup for each personnel before induction is must
21. All workmen shall wear only cotton dangry.
22. Required PPE's to all the workers is mandatory.
23. Before deployment safety training is must.
24. All the jobs is to be carried out under work permit system of GAIL, Pata

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25. Arrangement of daily Tool box meeting.
26. Training and induction program.
27. HSE promotional activities.
28. Emergency evacuation plan.
29. Site HSE plan.
30. Third party inspection (competent person) for all the lifting tools and tackles to be done.
31. Sufficient quantity of fire blankets is to be ensured at site.
32. Daily activity at site:
 1. Daily Safety Check sheet
 2. Tool Box talks (before start of the job)
 3. Inspection of scaffolding
 4. Daily HSE observation
 5. Recording of the near miss Incidents
 6. Gas cutting and lifting tools check list.
33. Weekly/ fortnightly activity at site:
 1. Weekly Progress Meeting
 2. Weekly inspection of electrical installation recording of the ELCB tripping
 3. Fortnightly Safety Meeting by the contractor
 4. Inspection of the First Aid centre
 5. Electrical installation check list.
34. Monthly activity at site:
 1. Site HSE inspection
 2. Review of the Risk Analysis/ JSA preparation in the line with activities of the Month
 3. PPE inspection
 4. Inspection of fire Extinguishers
 5. HSE training/Refreshers training for supervisor Level
 6. HSE training to worker level
 7. Reporting of the Monthly Safety status
35. Quarterly/ Bi-annual/yearly activity at site:
 1. Site HSE audit (Joint Audit conducted with GAIL & Consultant (Quarterly)
 2. HSE Audit (external)

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3. Inspection of cranes and lifting accessories
4. Inspection of Machineries & Equipment (Quarterly)
5. HSE review meetings (Every Six Months)
6. Resting and certification of lifting Equipment (Yearly)
7. Recording, Reporting and analysis of the incidents/Accidents.
8. Inspection of the construction equipment
- 9 Inspection of the construction equipment
10. Safety awareness/Promotional Program
36. Safety check list for welding set.
37. Safety check list for portable grinding machine
38. Vehicle fitness checking
39. Other activities at site including one time site
 1. HSE Plan & Risk analysis/JSA
 2. Safety Award
40. All electrical portable equipment should have 30 mm ELCB and ELCB Test register.