



File Number:	BEML/PALAKKAD/RAIL COACH/MECHANICAL MAINTENANCE/P1118/2021/3660510
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Basic Details

Created On : 13/12/2021 Time : 16:35:19	Created By: MECHANICAL MAINTENANCE/ BEML-P1118
Due Date: 31/12/2021	Priority: High
Subject: TECHNICAL SPECIFICATION APPROVAL FOR SOLAR WATER HEATERS IN GUEST HOUSE UNDER C	Last Changed By: 23489/PPD/ RAJALAH G
Status: In Process	

File Description

Sub: Technical specification coordination for Solar water heater in Guest house

Vide FLM ref: **3530007** technical committee formed for finalization of Technical Specification & Evaluation of Technical Bids of the Capital items requirement for the 2021-22.

An amount of Rs. 22 lakhs was projected in the category of Guest House & Quarters renovation work in CAPEX 2021-22 such as Painting work, Replacement of roof ACP Panel for arresting of leakages, Provision for Toilet in Ground floor, Installation of Storage water tank for ensuring continuous water supply, Replacement of faulty ACs with Energy efficient inverter ACs, Replacement of geysers, Reconditioning of wooden furniture. For replacement of electric geysers, it is proposed to install 2 nos of Solar water heaters.

Accordingly Technical specification of Solar water is prepared and is given below. Approximate cost of 2 nos of Solar water heaters is Rs. 1.03 lakhs (excl. of GST). Quotation enclosed as [Annexure-I](#).

Technical Specification for ETC type Solar water heater		
Item Description		Supply, Installation & Commissioning of ETC type Solar water heater
Quantity		2 Nos
Sl. No	Parameter	Requirement
1	Eligibility criteria	The firm shall submit 3 nos of Satisfactory performance certificate from the customer for supply & installation of similar type of Solar water heater with in last 5 years for acceptance of offer.
2	Make & Model	MNRE approved model. The firm shall submit relevant document as a proof.
3	Type of Solar water heater	ETC type Solar water heater
4	Heating capacity	350 +/- 10 LPD
5	ETC tube	3 layered Borosilicate coated tubes
6	ETC tube coating	Cu/AIN/AIN-SS
7	ETC tube glass thickness	Minimum 1.6 mm
8	Type of Tank	Insulated hot water storage tank
9	Inner tank & Outer tank material	Minimum SS-304/ SS-316 grade
10	Supporting structure	MS frame support with one coat of primer & 2 coats Anti corrosive painting OR suitable Aluminium supporting frame . Thickness of sheets shall be strong enough to avoid any deformation of the support.
11	Insulation material for Hot	CFC free Poly Urethane Form (PUF)

	water tank/Pipe line of solar water heater	
12	Back up heater	1 No of ISI marked, 2KW, 240V AC, 50Hz operated, push type heater coil. Weather proof covering shall be provided for heater coil connection terminals.
13	Back up heater control	Thermostat control
14	Fasteners used	Stainless steel
15	Warranty	The firm shall offer minimum 5 years warranty for the complete product and installation work from the date of commissioning.
16	Installation & commissioning	The firm shall depute their service engineers to install the Solar water heater at our Guest house terrace with necessary piping works. The firm shall commission the Solar water heater to the satisfaction of BEML Ltd
17	Input water to Solar water heater	BEML will provide 1500/ 2000L HDPE cylindrical water storage tank installed at a height of 1 meter from floor level. The firm shall design and install the supporting structure & tank of Solar water heater in such a way that water shall flow to Solar water tank in normal gravity flow.
18	Input pipe line connection for Solar water heater	For input water supply, the firm shall take necessary UPVC pipe line connection from existing 1500/ 2000L HDPE cylindrical water storage tank using UPVC ball valve, air vent pipe & other UPVC pipe accessories.
19	Output pipe line connections for Solar water heater	The output pipe line of Solar water heater shall be connected to existing CPVC pipe line near to the tank using CPVC ball valve, air vent pipe & other CPVC pipe accessories.
20	Civil works	Any minor civil works like grouting, cement concreting etc for the installation of Solar water heater is under the scope of the firm. The firm shall support the frame of Solar water heater to withstand high wind velocity in Palakkad region.

File Notings

Submitted for Technical committee coordination.

Created By: MECHANICAL MAINTENANCE/ BEML-P1118

Created On: 13/12/2021 Time : 16:36:35

Coordinated for approval please.

Created By: 27597/PS-1/ MOHAN RAJ K

Created On: 14/12/2021 Time : 07:59:32

[3530007](#) may be read as [3530026](#) (Technical Committee Reconstitution approval)

Coordinated for approval please.

Created By: 28562/PPI-1/ ANGEL S ARAVIND

Created On: 14/12/2021 Time : 10:34:27

Coordinated for further approval.

Created By: 27799/ RAJAKUMAR S

Created On: 14/12/2021 Time : 16:42:47

Coordinated for further approval

Created By: 26339/PDD/ SRIDHAR N

Created On: 15/12/2021 Time : 12:53:23

Supply, Installation & Commissioning of ETC type Solar water heater.

Coordinated for further approval.

Created By: 24642/ MANJUNATH N

Created On: 15/12/2021 Time : 16:46:13

Coordinated for approval

Created By: 24841/QPD/ SURESH P

Created On: 15/12/2021 Time : 17:06:43

Coordinated.

Created By: 23489/PPD/ RAJAIAH G

Created On: 16/12/2021 Time : 08:59:07
