

# Institute for Defence Studies and Analyses

No. 1 Development Enclave, New Delhi-110010

Phone-26717983

No. IDSA/A/388//08

Dated: 09<sup>th</sup> October , 2015

To,

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**Subject: Overhauling of Cooling Tower at IDSA .**

Dear Sir(s),

Quotations are invited for Overhauling of Cooling Tower No 1 as per scope/specifications of works given in Annexure-‘A’ enclosed. Conditions of the order shall be as follows: -

## **1. Time Schedule**

The work shall be completed within 20 days from the date of issue of work order. A sum of Rs 500 per day will be charged for delay in completion of work. Director General IDSA’s decision in this regard shall be final and binding.

## **2. Execution of Work**

The materials supplied and /or incorporated into the work shall be best available and strictly conforming to specifications as detailed in Annexure ‘A’ .The job work shall be executed in best workman like manner according to standard engineering practices to the entire satisfaction of the Director General, IDSA.

## **3. Unit Price**

Unit rates quoted for the work shall be deemed to include for all material and labour, tools, plants and accessories, as required for proper execution of work complete in all respects. Any missing minor details which are not spelt out in the description of items but are required for proper completion of job work, shall be deemed to have been taken into account in the quoted rates. The rates shall also include for all taxes like service octroi, excise duty, transportation etc. including price escalations, contractor’s overheads and profits. Nothing extra shall be admissible on any such account.

## **4. Approval of Workmanship**

All the material and workmanship shall be subject to the Director General’s, approval. .  
The site of work shall be cleared of all debris and un-used materials.

**5.** On completion of the work, the contractor shall inform the Estate Manager in writing with the date of physical completion of work for final approval and issues of completion certificate.

## **6. Defect Liability**

The work completed shall have defect liability period of 06 months from the certified date of completion. The contractor shall rectify, re-do and/or replace all the components/item of works wherein defects have developed during this period under the direction of the Director General at no extra cost.

## **7. Submission of quotation**

Annexure 'A' to the quotation duly quoted and signed on all pages along with this letter in token of the acceptance of terms and conditions mentioned herein-before, should be submitted in sealed covers duly marked "quotation for Overhauling of Cooling Tower at IDSA", at No 1 Development Enclave, New Delhi addressed to Estate Manager , IDSA, so as to reach on or before 1500 hrs on 30<sup>th</sup> October 2015. Late quotation shall not be entertained.

8..80% Payment shall be made on satisfactory completion of work and rest 20% shall be made after the defect liability period .

## **9. Dispute Resolution**

Disputes if any, with regards to the interpretation, execution and/or implementation of these terms and conditions shall rest exclusively in the Director General, IDSA whose decision shall be final and binding upon the parties. Disputes, if any, with regard to the decision of the Director General, in this regard, shall be refereed to arbitration at the hands of a sole arbitrator to be appointed by IDSA and all proceedings in this regard shall be subjected to the sole and exclusive jurisdiction of courts of competent jurisdiction at New Delhi.

10..Upon acceptance of bid, no sub letting/transfer would be allowed by the Contractor

11..Standard force-majeure conditions would be apply.

12. Bidders are advised to visit the site before Quoting , IDSA will not be responsible for their miscalculation of work or under estimating the scope of work .

*Director General, IDSA reserves the right to accept or reject the lowest or any offer or all offers without assigning any reasons thereto.*

Yours Sincerely,

Hemant kumar  
Estate Manager

**Annexure-A.**  
**(part –A)-Material**

SNo	Description	Qty	Rate (Rs)	Amount (Rs)
1	PVC fills –High efficiency double edge folded Honey Comb PVC fills shall be film type , rigid . Corrugated PVC sheets that are conducive to cooling water with UV protected and self extinguishing properties , Fill shall be cross corrugated and the surface of the sheet shall have a suitable micro-structure to improve turbulence and water distribution . Fill sheet shall be bonded at all contact points . Fills shall be of alternate tip configuration to improve water drainage and minimize air pressure drop . The thickness of film should not less than 02mm. Module size would be - 600mmx300mmx150mm	400 Nos		
2.	Aluminium Fan set –Should be use of high efficiency fans and blades range utilizes all cast aluminium Alloy . Fan of cooling tower are of multi bladed axial flow aerofoil design all of fan should be furnished with manually adjusted pitch blades . Fan should be dynamically balanced and must be vibration free . Aluminium Fan set - 2000mmx42 mm x6 Blades	01 set		
3.	PVC drift Eliminator : Drift Eliminator shall be assembled in easily removable modules . Drift Eliminator designed for maximum removal of entrained water droplets at operating face	100 Nos		

	velocity . Cellular type eliminators offering drift losses must not exceed 0.005% of the designed water flow rate . Size 600mmx300mmx125mm			
4.	PVC branch pipe with socket & cap–Should be made of standard PVC material –These sub header pipes should be connected through PVC nozzles . Water should be spreaded over the filling maximum surface area uniformly through PVC splashing cups for efficient water coverage -size- 12mmx900mm	100 Nos		
5.	GI pipe-20 mm-C class with ISI mark . These are support pipe 4.25meter each .	08 Nos		
6.	FRP fan cylinder-Will be used as motor holder should be made by high grade unsaturated polyester resin with glass fibre and UV inhibitors get coated with colour pigment Size- 2000mmx700 mm	01 set		
7.	FRP sheet –Fan deck sheet – Should be made of Glass fibre and high grade unsaturated polyester resin with UV inhibitors coated with colour pigment -Size- 4200mm'x4200mm-Sheet thickness should not less than 2.5mm	4 Nos		
8.	Supporting Cleat of MS HDG (Hot dip galvanized )or as per site requirement -40x40x5mm- 100 mm length	46 Nos		
9.	Supporting angle –MS HDG-size -40x40x5mm	9 Mter		
10.	SS Nut bolt & SSwashers as per requirement	5 Kg		
	Total material cost			

**Part –B**

1. Labour Charges for Dismantling & removal of old fills , Drift & water distribution system from cooling tower, Replacement of fan Deck & fan cylinder, Refitting , fitting of drift eliminator etc . Completer in all respect including trial run . the cost should include transportation charges , service tax etc .

Amount in Rs for Part (B).....

Total amount of work (A+B) :...Rs .....

Amount in words and figure in Rs .....