



WATER TRANSPORTATION

# The Largest Drinking Water Supply Lift pumping station

in India uses Aqua make Submerged Tubular Column Pumpsets at Fore Shore of Nagarjunasagar Reservoir at Puttamgandi

“Hyderabad Water Board to Salvage dead water from Nagarjuna Sagar Project - Indian Express”

## Situation :

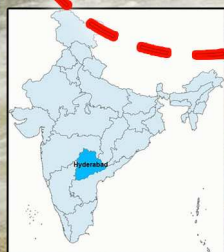
Due to unprecedentedly Low water level in the Nagarjuna Sagar Project (up to 497' as opposed to FRL of 590'); gravity flow to BHEL ICAD PS was hampered thereby jeopardizing 1400+MLD water supply to Greater Hyderabad & adjoining districts.

The State Govt entrusted HMWSSB to take up a challenging task of setting up a 1468.8 MLD Lifting PS within 1 month on the foreshore of NSP to maintain suction water level to BHEL ICAD PS. The challenges were many :

- 1) The Old PS was set up 12 years ago with MS structure which had corroded severely & would not be able to sustain Thrusts of such high flow pumpsets;
- 2) The sump was designed for suction water level of 500' but this time it would have to be used up to 495'

Aqua was chosen to design, manufacture, supply the huge pumpsets with 1300mm column pipe diameter each & with special Canister Bottom which could allow the bulky pumpsets & pipes to be Free Bottom Rested on sump bottom (thereby not imposing any Thrusts onto the fragile MS pump room structure).

Due to need to go below the original designed level; the pumpsets were installed without any Bottom Suction Strainers - this coupled with absence of Trash Rack at Sump inlet & parallel dredging of would exposing the pumpsets to huge amount of Silt & even sucking up MS Corrugated Sheets, fishing nets, etc.



Model Code : ATB\_V\_TU\_1st\_Bo\_1371\_M\_LLL\_0600\_00415\_NJ.  
Flow Rate : 12240 m<sup>3</sup>/hr (3.4 m<sup>3</sup>/S & 293.76 MLD)  
Project Name : Puttamgandi LPS  
End User : Hyderabad Metropolitan Water Supply & Sewerage Board (HMWSSB)



Uniquely designed Free standing Bottom Canister stand rested on the sump bottom without any fasteners to avoid imposing thrusts on the fragile MS floor of existing pump room.



ATB pump has been lowered to the Canister-Tube, which would be rested on the canister ring which is in turn rested simply by bottom resting on sump without any foundation/ holding bolts/ fasteners.



### HYDERABAD METROPOLITAN WATER SUPPLY AND SEWERAGE BOARD

Lr. No. GM (E)/DB/HMWS&SB/2017-18/

1069

Dt: 21/8/2017

### EXPERIENCE CERTIFICATE

This is to certify that M/s Power Solutions, (JV with M/s. Aqua Machineries Pvt Ltd), H.No:5-94/2 G Floor, Dwaraka Sai Residence, Chanda Nagar,Hyderabad,5000050, have been completed the following work in stipulated time.

Name work:-	Manufacture, Supply, Delivery, Installation, Testing & Commissioning of Submerged pumpsets with total discharge of 600 cusecs with accessories and allied equipments for emergency pumping station at foreshore of Nagarjunasagar reservoir at Puttamgandi under EAM Section, O&M Division-XI, Saheb Nagar.
Agency:	M/s. Power Solutions (JV with M/s. Aqua Machineries Pvt Ltd.)
Period:	One (1) Month
Agt No. & Date:	11 /CGM(E)/TC/T3/Submersible Pump sets/ Puttamgandi/2017-18 Date: 17-04-2017.
DT.AS No. & TS No :	DT AS No:675/2016-17., dt:10.03.2017 DT TS No:71/2016-17., dt: 10.03.2017
Estimate value :-	495.00 lakhs
Estimate contract value:-	Rs. 4,88,65,000.00
Agreement Contract value :	Rs.4,85,13,172.00
Value of Work Done:	Rs.4,94,71,972.55 Ps <span style="margin-left: 20px;">Rs: 4, 85, 13, 172 = 00.</span>
Date of mark out:-	31.03.2017
Date of completion :-	29.04.2017

This is to certify that the above Agency has successfully completed and commissioned the above work and the details of major items of works executed by the agency under this agreement is as follows:

Sl No	Description of Item	Unit	Quantity
1	Supply, Installation, Testing, Commissioning of Vertical Canister Tube Installed Axial flow Propeller type Submerged Centrifugal Pumpsets, Water Immersed, Dry Air filled, Class "F" insulated, induction motor, vacuum pressure impregnation treatment, TEWC Motor Integrally mounted for handling Raw Water application for 3 phase, 50Hz +/- 3%, 415 V along with set of 20m suitable size copper PVC Dual sheathed, flexible round power cables and PVC Dual sheathed copper control cable, Installation device having material of construction: Impeller - CF8M, Casing -Ductile Iron, guide pipe MS-C15-S.S-to draw Raw water having Discharge capacity (Q)12240-M3/hr @9m Head (H) @50Hz each, Approx. 450 KW(600HP), 415V, 580 RPM (Syn.) with 82% minimum pump efficiency of makes AQUA /KSB/XYLEM/FLYGT/EBARA along with Suitable Length of Vertical Bottom rested Canister Tube of 1300mm diameter to insert, rest & operate the pumpset complete, including all taxes, duties and all other incidental operational charges etc., complete and as directed by the departmental officers.	Sets	05
2	Supply, delivery, Installation, Testing and Commissioning of Soft starters with suitable incoer as per requirement + FCMA soft starter suitable for 450 KW/600HP Pump Sets with metering, protection, accessories complete housed in painted sheet metal enclouser, including all taxes, duties and all other incidental operational charges etc., complete and as directed by the departmental officers.	Sets	05

The overall performance of the work executed by the agency in completion of the above work is satisfactorily.

This certificate is issued at the specific request of the agency for participating in tenders.

Date: 19-07-2017  
Place: Hyderabad.

*[Signature]*  
General Manager (Engg),  
O&M Division No. XI,  
19/7/17

//Counter Sd//

*[Signature]*  
Chief General Manager (Engg)  
Transmission Circle, HMWS&SB

*[Signature]*  
10/10/17

### Aqua's Solution :

Aqua has designed, manufactured, tested, installed & successfully commissioned 5 nos. Submerged Tubular Column Pump sets - each of 12240 m<sup>3</sup>/hr flow - with total discharge of 1468.8 MLD (600 Cusec) with specially designed free standing Canister delivery Column Tubes for Dead Water Pumping.