

DETAILS REQUIRED TO ACHIEVE COMMON LEVEL COMPARISON AND FINAL PROJECT ESTIMATION

Society	Basic information that need to be available
ASTRWA	1) Total no of houses & no of persons per house to be finalised. 2) Today's actual over all discharge to be measured before finalising the PO. 3) Today's actual RAW data to be measured before finalising the the PO. 4) As on date Structural stability / strength of the existing tanks & piping system (including already available). 5) society to get the necessary govt department approvals for STP , Electricity,and internal construction. 6) Co ordinating with the Electricity board in providing power to STP.

Vendor	Details required
NDWE	1) Based on the ASTRWA's basic info assumptions of quote to be validated for plant capacity. 2) Claimed Hours of operation to be got. 3) Complying Norms to Govt Limits to be confirmed. 4) To find the possibility of including the civil work including site leveling in the NDWE scope. if yes additional cost involved to be got. if No then NDWE to explain the overall requirement to the vendor suggested by ASTRWA and the civil contractor to give estimations on cost & time frame. 5) NDWE to clarify on the support during warrenty period. 6) AMC quote for after warrenty period to be clarified and AMC quote to be received. 7) Approximate running cost for the STP in operation to be indicated. 8) Possibility of breaking the final pay into two payments a) after successful commissioning and b) at the end of warrenty period.
PD	1) Based on the ASTRWA's basic info assumptions of quote to be validated for plant capacity. 2) Claimed Hours of operation to be got. 3) Complying Norms to Govt Limits to be confirmed. 4) PD to clarify on the support during warrenty period. 6) AMC quote for after warrenty period to be clarified and AMC quote to be received. 7) Approximate running cost for the STP in operation to be indicated. 8) Possibility of breaking the final pay into two payments a) after successful commissioning and b) at the end of warrenty period.
H2O	1) Based on the ASTRWA's basic info assumptions of quote to be validated for plant capacity. 2) Claimed Hours of operation to be got. 3) Complying Norms to Govt Limits to be confirmed. 4) To find the possibility of including the civil work including site leveling in the H2O scope. if yes additional cost involved to be got. if No then H2O to explain the overall requirement to the vendor suggested by ASTRWA and the civil contractor to give estimations on cost & time frame. 5) warrenty clause to be defind by H2o. 6) H2O to clarify on the support during warrenty period. 7) AMC quote for after warrenty period to be clarified and AMC quote to be received. 8) Approximate running cost for the STP in operation to be indicated. 9) Possibility of breaking the final pay into two payments a) after successful commissioning and b) at the end of warrenty period.
PS	Scope of project including all details like plant capacity assumptions, meeting the technical /Govt norms of STP, warrenty clause, estimated running cost,supports required depatmental aproval etc. is not defind. Hence full information required for effective comparision.

Observation Summary

General Considerations

- a) Natural process vendor to give all required information
- b) Hours of operation for M/s NDWE, PD & P.S need to clarified.
- c) Preferred to have quote based on same plant capacity

Technical Considerations

- a) Natural process vendor to give all required information.
- b) As the Govt Norms is revised in last week new norms to be changed & verified with vendor claims.
- c) NDWE need to reconfirmed for TSS & BOD claim on treated for meeting the Govt norms as the norms for sewage and effluent are different.
- d) All Raw to be common and is should match with actuals of society waste

Commercial Considerations

- a) Civil work estimation to be received for comparison on total project cost.
- b) Missing info of H2O & PS to be collected. c)
- H2O Rider on other expenses need to be noted & clarified as it may land up in paying unwanted expenses.
- d) H2O and NDWE calls for addition site leveling which will have high cost impact.
- e) Cost involved due to Govt approval on Providing Power to site & STP requirement & Govt approval for STP will be in the scope of Anugraha.
- f) Final pay to be divided into two payments 1) 5 % completion of 3 weeks trail run and successful compliance to PCB norms, 2) 5% on expiration of warrenty period.
- g) Scope of vendor support in periodic maintanance post warrenty period support (Like AMC) to be defind & commercial quote for the same to be provided.
- h) Running cost for the STP to be clearly mentioned (Resource required, Material & frequency) along with cost involved (based on as on date pricing)

Excecuion Considerations

- a) Missing into of H2O & PS to be collected.
- b) H2O Rider on other expenses need to be noted & clarified as it may land up in paying unwanted expenses.
- c) Addition site leveling which will hinvolve lot of coordination with multiple agency & overall project duration.
- d) Govt approval on Providing Power to site & intial & final STP Govt approval will have to be considered in project excecuion time.
- e) STP Standard operating manual to be provided in 2 sets.
- f) Scope of vendor support during Warrenty period to be defind.
- g) Scope of vendor support in periodic maintanance post warrenty period support (Like AMC) to be defind & commercial quote for the same to be provided.
- h) Running cost for the STP to be clearly mentioned (Resource required, Material & frequency) along with cost involved (based on as on date pricing)

H2O ENGINEERS

- H2O

NEW DAWN WATER ENGINEERING

- NDWE

PURO DYNAMICS

- PD

P SANTOSH KUMAR

- PS

GENERAL CONSIDERATIONS

Sl. No	Characteristics	NEW DAWN WATER ENGINEERING		PURO DYNAMICS		H2O ENGINEERS		P SANTOSH KUMAR	
		RAW	TREATED	RAW	TREATED	RAW	TREATED	RAW	TREATED
1	STP Type	MECHANICAL		MECHANICAL		MECHANICAL		NATURAL	
2	PLANT CAPACITY	250		170		300		?	
	a) No. of houses	350		320		520		?	
	b) no of persons per house	5		5		4		?	
	c) average discharge per person	150		130		135		?	
	d) % occupation average	90		80		100		?	
3	HRS OF OPERATION	?		?		24		?	
4	AVERAGE FLOW RATE	?	?	250	170	12.5	?	?	?

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TECHNICAL CONSIDERATIONS

2015 - GOVERNMENT NORMS - TOLERANCE LIMITS FOR TRADE EFFLUENTS					VENDOR CLAIMS								
Sl. No	Characteristics	Tolerance Limits for Discharge of Trade Effluents into				NEW DAWN WATER ENGINEERING		PURO DYNAMICS		H2O ENGINEERS		P SANTOSH KUMAR	
		Inland surface Waters	Public Sewers	On Land for Irrigation	Marine Coastal Areas	RAW	TREATED	RAW	TREATED	RAW	TREATED	RAW	TREATED
1	Colour & Odour	-	-	-	-	-	-	-	-	-	-	-	-
2	Suspended Solids mg/l	100	600	200	a. For process waste water-100 b. For cooling water effluent 10 percent above total suspended matter of influent cooling water	50-150	40-50	350	<20	100	<10	?	?
4	Dissolved Solids (inorganic) mg/l	2100	2100	2100	-	1300 - 1500	<1800	?	?	?	?	?	?
5	pH Value	5.5 to 9	5.5 to 9	5.5 to 9	5.5 to 9	7.0 TO 7.5	6.5 TO 8.5	6.5 TO 7.5	6.5 TO 7.5	7.0 TO 8.0	7.0 TO 8.0	?	?
7	Oil & Grease mg/l	10	20	10	20	10 - 30	NIL	?	?	10 - 15	TRACES	?	?
12	Bio Chemical Oxygen Demand (3 days at 27°C) mg/l	30	350	100	100	250 - 350	<30	300	<20	300	<10	?	?
13	Chemical Oxygen Demand mg/l	250	-	-	250	500 - 600	<250	600	<100	700	<50	?	?

2015 - GOVERNMENT NORMS - TOLERANCE LIMITS FOR SEWAGE			VENDOR CONFIRMATIONS									
Sl. No	Characteristics	GOVT. NORMS	NEW DAWN WATER		PURO DYNAMICS		H2O ENGINEERS		P SANTOSH KUMAR			
			RAW	TREATED	RAW	TREATED	RAW	TREATED	RAW	TREATED		
1	pH	5.5 to 9	7.0 TO 7.5	6.5 TO 8.5	6.5 TO 7.5	6.5 TO 7.5	7.0 TO 8.0	7.0 TO 8.0	?	?		
2	Total Suspended Solids mg/l	30	50-150	40-50	350	<20	100	<10	?	?		
3	Biochemical Oxygen Demand (3 days at 27°C) mg/l	20	250 - 350	<30	300	<20	300	<10	?	?		

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COMMERCIAL CONSIDERATION

Sl. No	Characteristics	NEW DAWN WATER ENGINEERING	PURO DYNAMICS	H2O ENGINEERS	P SANTOSH KUMAR
1	TOTAL PROJECT COST	1620000+FOB+UNLOADING+18% GST	3540000 (All inclusive)	3348000 +2% FOB+UNLOADING+18% GST	2601613 + tax etc
2	PROJECT COST	1620000	3540000	3348000	2601613
3	ADDITIONAL EXPENSES	PACKING & FORWARDING +FRIHT+UNLOADING+18% GST+ANY OTHER TAX	Nil	2% ON PACKING & FORWARDING +FRIHT+TRANSIT INSURANCE+UNLOADING+18% GST+ANY OTHER TAX	?
4	PAYMENT - ADVANCE WITH P	40%	100%	50%	?
5	INTERMEDIATE PAYMENT	50%	-	40%	?
6	FINAL SETTLEMENT	10%	-	10%	?
7	WARRENTY CLAIMS	Against defective materials and workmanship for a period of 18 months from the date of supply or 12 months from the date of commissioning which ever earlier.	FOR MANUFACTURING DEFECTS AND VOID PHYSICAL DAMAGES INCLUDING HEATING COILS AND ARE VOID OF WARRANTY	?	?
8	WARRENTY PERIOD	18/12 MONTHS	12 MONTHS	?	?
9	ANY ADDITIONAL COST INVOLVED DUE TO ADDITIONAL WORK	Entire civil work + expenses related to commissioning & govt approval	NIL	Entire civil work + expenses related to commissioning & govt approval	?

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EXECUTION CONSIDERATION

Sl. No	Characteristics	NEW DAWN WATER ENGINEERING	PURO DYNAMICS	H2O ENGINEERS	P SANTOSH KUMAR
1	DELIVERY	6+1+3	8 Weeks	8 weeks	?
2	EXCLUSION IN PROJECT WORK	Any civil work + site Make ups + Earth work & piping work (including inlet / outlet of STP) +incoming power line & all electrical work+ resource support for unloading+sludge cleaning + NOC / Approval from Govt + commisioning consumables like water, electricity etc	Nil	Entire civil work (construction of 4 additional tanks)+ site Make ups + Earth work & piping work (including inlet / outlet of STP) +incoming power line & all electrical work+ resource support for unloading+isludge cleaning + NOC / Approval from Govt + commisioning consumables like chemicals water, electricity,lubricants etc	?
3	SUPPORT REQUIRED	resource, water, electricity, plumbing, govt approvals, civil work & site preparations	Nil	resource, water, electricity, plumbing, govt approvals, civil work & site preparations	?

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