

Expression of Interest (EOI) For Upgradation of SWAS system of Unit-1& 2 of ITPS, Banharpali, Jharsuguda, Odisha, India.



ODISHA POWER GENERATION CORPORATION LIMITED



(A Government of Odisha undertaking)

AT-IB THERMAL POWER STATION, PO: BANAHARPALI, DIST: JHARSUGUDA, OPGC ODISHA-768234

Phone no: (Land Line No. 06645-289232/221/355/356/245)

Expression of Interest

OPGC invites sealed bids from bona fide and financially sound Registered Agencies /Firms /Companies for execution of the following Works & Supplies for its Thermal Power Plant at Banharpali.

Works	Tenders: NIT No. ITPS/CC-22/2025-26/13, Date: 30.09.2025	
SL.No	DESCRIPTION	BID SALE DATE
1.	Expression Of Interest (EOI) to design, supply Install, commission and testing of Public Address (PA) System at Maa Samaleswari Temple at Sambalpur	03.10.25 to 18.10.25
2	Expression Of Interest (EOI) for Upgradation of SWAS system of Unit-1&2, OPGC-I	03.10.25 to 18.10.25

The detailed NITs along with Terms and Conditions are available for download at OPGC website Addenda/Corrigenda/ Extensions, if any, will be notified on the at www.opgc.co.in. OPGC website only and will not be published in any other media. Interested companies or entities may visit OPGC website for the tender timeline and other details.

Expression of Interest (EOI) For Upgradation of SWAS system of Unit-2 of ITPS

1.0 INTRODUCTION

OPGC Phase-I is a 2 x 210 MW sub-critical and OPGC Phase-II is a 2 x 660 MW supercritical power plant located at IB Thermal Power station, Banharpali, Jharsuguda, Odisha, India. The total capacity of station is 1740 MW.

2.0 <u>INTENT OF THE EXPRESSION OF INTEREST (EOI)</u>

IB thermal power station, OPGC, Banharpali, Jharsuguda, ODISHA invites "Expression of Interest (EOI)" for list out the prospective bidder of SWAS OEM or OES.

SCOPE OF WORK

Introduction

- The work requirements shall be taken as the minimum acceptable supply & works and shall not be read as limiting the extent of supply and works
- It is not the intent to specify completely herein all details of works required. However, the works shall conform in all aspects to high standards of engineering and workmanship and shall be capable of performing in a manner acceptable to the Station.
- The tender is to include the whole works that are described in or implied by the tender document. All matter omitted from the tender document which may be inferred to be obviously necessary for the efficiency, reliability, and completion of the works, shall be deemed to be included in the Tender Price.
- The tender is to include the provision of skilled man powers, parts, equipment, tools, and materials to perform the work to the satisfaction of the corporation. The scope of work shall include providing the qualified manpower, tools, equipment, testing, transportation, and consumable items for dismantling, erection & commissioning of SWAS system.

Vendor's Scope of work

Below is a detailed outline:

Dismantling Phase:

- 1. Preliminary Assessment:
 - Conduct an initial assessment of the existing SWAS systems both dry & wet panels.
- 2. Documentation Review:
- Review existing documentation, including system drawings, manuals, and maintenance records, to understand the current configuration.
- 3. Inventory and Labeling:
 - Create an inventory of all components slated for removal.
 - Label equipment, instruments, and sample transport lines for ease of identification.
- 4. Dismantling and Removal:
 - Dismantle and remove old instruments, analyzers, sensors, valves, and tubing to a predefined sequence.
 - Handle dismantled components with care to prevent damage.
- 5. Inspection for Damage:
- Inspect existing infrastructure (pipes, panels, etc.) for any damage that may have occurred during the dismantling process.

Erection and Commissioning Phase:

- 6. New System Design and Layout:
- Develop a detailed design and layout plan for the new SWAS systems, including the placement of analyzers, and sample panels.
- 7. Component Procurement:
 - Procure new instruments, analyzers, sensors, valves, and tubing according to the approved design.
- 8. Installation:
 - Install new components based on the approved design and layout.
 - Follow manufacturer guidelines for proper installation and positioning.
- 9. Testing and Calibration:

- Conduct rigorous testing of each component and system.
- Calibrate all analyzers and sensors to ensure accuracy.
- 10. Integration with Plant Systems:
 - Existing sample tube, cooling water shall be used.
 - Integrate the new SWAS system seamlessly with the existing plant's instrumentation and control system.
 - Verify communication protocols and data exchange.
- 11. Sample Transport Line:
- Conduct a thorough inspection of the current SWAS sample transport line to evaluate their condition and compatibility with the new system requirements.
 - Develop a detailed plan for integrating the existing sample transport lines to the new system.
- Implement necessary adaptations or modifications to the existing sample lines/ cooling water header to meet the new SWAS system specifications.

12. Commissioning:

- Commission the entire SWAS systems, to ensure it operates within specified parameters.
- Monitor and resolve any issues during the commissioning phase.
- 13. Documentation Update:
 - Update all system documentation, including new drawings, manuals, and maintenance procedures.
- 14. Training:
- Provide training to plant personnel on the operation, maintenance, and troubleshooting of the new SWAS systems.
- 15. Performance Validation:
 - Perform validation tests to ensure the renovated SWAS system meets specified performance criteria.
 - Monitor the system during initial operation to address any unforeseen issues.
- After commissioning of SWAS and plant start-up, service engineer to be deputed at site for parameters performance testing during operation of plant.
- 16. Handover and Approval:
 - Conduct a final inspection and obtain necessary approvals from relevant authorities or stakeholders.
 - Hand over the fully commissioned SWAS systems to the plant.
 - Hand over 5-sets as build complete documents & Manuals per Unit set to OPGC.
 - Warranty visit for preventive maintenance shall be made on quarterly basis for 2 man-days / quarter.

Any spares supplied or emergency services during the warranty period shall be without any additional cost or any commercial implications to OPGC.

- 17. Safety first
- Verified ISO standard Safety PPEs must be used and all safety rules and regulation of OPGC to be strictly followed.

ANNEXURE-I

Technical details:

- 1. pH Sensor & Transmitter: 2 Nos per Unit (As per technical specification in ANNEXURE-II)
- 2. Conductivity Sensor & Transmitter: 9 Nos per Unit (As per technical specification in ANNEXURE-II)
- 3. DO Sensor & Transmitter: 2 Nos per Unit (As per technical specification in ANNEXURE-II)
- 4. Silica Analyser: 3 Nos per Unit (As per technical specification in ANNEXURE-II). Silica analyser reagent shall be open chemistry and recipe must be shared by vendor.
- 5. pH, Conductivity solution, Silica Reagents to be consider for **one year operation** from the date of commissioning with FOC basis. All the reagents/ consumables required for trouble free operation of the system shall be supplied during commissioning.
- 6. All sensors must have individual / independent Sample Isolation Valve, Blowdown Isolation Valve, Cooler / Heat Exchanger, Sight flow indicator, TSV, PRE, Pressure Switch, Solenoid valve, BPR, 3-way ball valve for

cooling water, Strainer (40 Micron), Temperature Gauge & Pressure Gauge (100 mm dial size, MOC: SS316), Flow indicator with needle valve & all necessary components. MOC of SHS components must be SS316 and cooler tube must be INCONEL625.

7.Sample cooler shall be of submerged helical coil type of shell and tube design with removable shell. The sample tube shall be of seamless with no welds and other joint inside the cooling jacket. Sample cooler must be protected by a built-in shell relief valve. A drain plug provided at the bottom of each cooler. Each cooler should be protected with a check valve on the coolant outlet of the cooler and a common relief valve on the cooling water header unions shall be provided to facilitate removal of coils. The Sample cooler tube shall be of Inconel625. The cooler design should conform to ASTM standard where the approach temperature shall be capable of reducing the incoming sample temperature to within 2.8 degC of cooling water inlet temperature with cooling water requirement not exceeding 2.7 cubic meters per hour. The sample coolers must be designed for 594 deg C and 234 Bar pressures. Necessary documents of cooler calculation of offered make & model to be submit with technical offer.

8. Capacity of cooler shall be adequate to cool the sample to the temperature suitable for proper functioning of the analyzers considering the combined flow of each analyzer connected to sample cooler. Cooler capacity calculations shall be submitted by the bidder. Cooling water temperature: 35 – 45 deg C; Cooling water pressure: 4.5 kg/cm2; Chloride content in cooling water: 24-40 PPM.

- 9.Thermal Shut off Valve (Make: Sentry, USA / ThermOmega Tech, USA): Downstream of the variable pressure reducing element should be thermal shut off valve with 49 deg c set point. The same should be self-contained type, should not divert the flow and should be of automatic reset type and not manual reset type in any ways. It should be a separate unit at the downstream of the variable pressure reducing element. No power and Air supply should be required for High temperature protection used in sample conditioning systems. No temperature switch and Solenoid / pneumatic valves should be used for high temperature cut off as these require electrical power supply /instrument air supply. This is to avoid any operator hazards in the event of short circuit due to wet conditions and to avoid chattering problems of temperature switch and solenoid coil.

 10.Sample Filter: Sample particles removal shall be accomplished by passing all samples through filters with body MOC of SS316. The filter design should allow the removal of filter element without disassembling the Filter from the line. The filter element shall be redundant type with one filter in standby mode capable of retaining particles for healthy operation of the system. The filter should be located before the pressure regulator. Provision should be there to take individual filter in line or offline. The filter element shall be capable of retaining particles of 40 micron or larger
- **11.High Pressure Sample Reducing Element:** As per the recommendation of ASTM-D5540a standards, Sample pressures above 30 bar the pressure reduction should be achieved by fixed pressure reducing elements with Rod in tube type principle of operation. These pressure reducers should be cleaned Online without removing the components from the process pipeline. The cleaning operation shall be completed within Five minutes. The variable pressure reducing element should be capable of reducing the output pressure precisely to 2.2 bar. The pressure reduction to be achieved with rod in tube type pressure reducing element (PRE) and tapered rod, step tapering is not allowed. This is to meet ASTM-D5540a standards.
- **12.Back Pressure Regulator:** Grab sample valves shall be arranged to allow grab sample flow to be directed to either a drain header or through grab sample nozzles. A back-pressure regulator cum relief valve must be used before the grab sample valve to ensure priority & constant flow to analyzers at minimum required pressure of at least 2Kg/Cm2 in the event of grab sample valve being in fully opened condition. No Valve shall be installed at the outlet of Back Pressure regulator
- 13. Sample system temperature gauge, pressure gauge and flow indicator: The pressure and temperature gauge shall be minimum 100 mm size with SS casing. Sample rate of flow indicator shall be rotameter with panel mounted bezel and SS float body with separate phenolic name-plate to identify the service and gauges

shall be located on the front of sample conditioning section. The accuracy of the gauge should be +/-1% of the full scale.

14.Sight Flow Indicator in each sample line: It should be purge type meter with panel mounting bezel and SS float body. Its Body material is SS316 and Glass tube type. These flow meters shall have built in flow control valve. Rotameters should be with turn down ration 10:1, temperature handling should be - 25°C to +100°C and pressure up to 16 bar. Rotameter Maximum permissible error 5 % . It must have built in Buna N gasket and Silver valve seat.

15.EMPTY SAMPLE ALARM: Bidder to consider suitable Sensor/Analytics to detect empty Sample condition in each sample line and the same need to generate alarm.

16.Wet Rack made from M.S angles / C-channels & ISMC-100 base, Paint shade: RAL

17.Panel; MOC: CRCA / MS; Paint shade: RAL-7032, 2 mm thick Panel Rating: IP54

18. Vendor to provide Cooling Water in-header, Cooling Water out-header, Blow down header, Drain header in wet panel with connection, with matching flange with gasket. Distribution inside panel is also in vendor scope.

19. Chiller Units:

The scope of work shall include the supply, installation, testing, and commissioning of two chiller units: one (1) main operational unit and one (1) standby unit. The standby unit shall be configured for automatic or manual switchover in the event of main unit failure or scheduled maintenance, ensuring uninterrupted system performance and redundancy. The Chiller design shall ensure an outlet water temperature between 20 deg c to 25 deg C, considering the required thermal load, operating conditions, and process requirements to achieve optimal efficiency and stable operation.

- 20. All analysers should be capable to transmit 4-20 mA output for each individual measured parameter to DCS only. Additionally, analyser should have Bi-Directional HART (Minimum HART 7 Protocol), should be communicate with universal HART communicator. DD file to be shared by vendor.
- 21. Additionally Economiser, Drum Water, Main Steam, Deaerator in operating floor sampling station cooler to be replaced with new one, total 7 nos per Unit.
- 22. For Hotwell conductivity, both sensors shall be provide with retractable fittings with necessary arrangement and transmitter shall be IP66, NEMA 4X and to be install inside a JB with canopy arrangement. Cable length to be consider minimum 10 meters.

23. Original Equipment Manufacturer (OEM) Certification & Country of Origin:

The vendor shall provide OEM certificates and country of origin certificates for all equipment supplied under this contract. These documents must be submitted for review and approval prior to delivery. The vendor is responsible for verifying and certifying that no equipment or components originate from China.

OPGC's Scope of work:

- 1. Cooling water will be provided at SWAS panel colling water header.
- 2. 230 VAC UPS and Non-UPS power supply shall be provided at one end of SWAS power JB.
- 3. Signal Cable shall be provided to take the 4-20 mA signal from SWAS panel to plant DCS.
- 4. Shifting of old dismantled SWAS panel systems to OPGC scrapyard.
- 5. Accommodation for engineers at our ITPS guest house.
- 6. Any Civil activities related to SWAS panel erection will be in our scope.

Technical Details (for Unit-1 & Unit-2)

1	Power Supply		230V AC (UPS)				
2	Cooling Water Temperature		35 – 45 Deg C				
3	Cooling Water Pressure		4-6 kg/cm2				
4	Chloride Content in Cooling Water		24-40 ppm				
5	Area Classification		Safe				
6	Secondary cooling		nits (1Main + 1 standby) for Jnit -1 & Unit-2	both			
S/ N	Sampling Point / Stream Name	Operating Pressure (kg/cm2)	Operating Temperature (Deg C)	рН	Sp. Cond.	DO 2	Silic a
			Unit	Nil	Micro S/cm	pp m	pp m
1	DM water make up to condenser	1.5	25	NA	1	NA	NA
2	CEP discharge	25	55	1	NA	1	1
				_	1 17 1	-	
3	CEP discharge before CEC	25	55	NA	1	NA	NA
3		25 25	55 55	NA NA		- -	NA NA
<u> </u>	CEP discharge before CEC				1	NA	
4	CEP discharge before CEC CEP discharge after CEC	25	55	NA	1	NA NA	NA
4 5	CEP discharge before CEC CEP discharge after CEC Economiser inlet	25 160	55 240	NA NA	1 1 1	NA NA 1	NA NA
4 5 6	CEP discharge before CEC CEP discharge after CEC Economiser inlet Drum water	25 160 160	55 240 320	NA NA 1	1 1 1 1	NA NA 1 NA	NA NA 1
4 5 6 7	CEP discharge before CEC CEP discharge after CEC Economiser inlet Drum water Main steam before CEC	25 160 160 150	55 240 320 540	NA NA 1 NA	1 1 1 1 1	NA NA 1 NA NA	NA NA 1 NA
4 5 6 7 8	CEP discharge before CEC CEP discharge after CEC Economiser inlet Drum water Main steam before CEC Main steam after CEC	25 160 160 150 150	55 240 320 540 540	NA NA 1 NA NA	1 1 1 1 1 1	NA NA 1 NA NA NA	NA NA 1 NA NA
4 5 6 7 8 9	CEP discharge before CEC CEP discharge after CEC Economiser inlet Drum water Main steam before CEC Main steam after CEC Main steam	25 160 160 150 150	55 240 320 540 540 540	NA NA 1 NA NA NA	1 1 1 1 1 1 NA	NA NA 1 NA NA NA NA NA	NA NA 1 NA NA 1

Total Measurements (per unit):

pH - 2 nos, Conductivity - 9 nos, DO₂ - 2 nos, Silica - 3 nos

Total Measurements (for both units):

pH - 4 nos, Conductivity - 18 nos, $DO_2 - 4$ nos, Silica - 6 nos

Note:

The above technical details and sampling points are applicable for **both Unit-1** and **Unit-2**. Each unit shall have an independent SWAS system with identical configuration, sampling arrangement, analyzers, and measurement points as listed above. However, the **chiller units (1 Main + 1 Standby) shall be common for both units**, suitably sized to handle the combined cooling load for all sampling points.

ANNEXURE-II

Sensor & Analyzer Technical Specification for UNIT#01 & 02 SWAS System

	TECHNIC	AL SPECIFICATION FOR pH SENSOR & ANALYZER	
S/N	DESCRIPTION	SPECIFICATION	Vendor Confirmation
	A. SENSOR		
1	Measuring Method	Combination type pH glass electrode with automatic pressure / flow compensation mechanism	
2	Make	OEM	
3	Model	As per the system requirement	
4	Mounting Type	Flow through Chamber SS316 in SWAS Wet Panel	
5	Reference Junction	Porous PTFE	
6	Response Time of temp element	T90 less than 1 min	
7	Earthing pin	Solid Platinum / Manufacturer Standard (pls mention MOC)	
8	Process Connection	3/4" NPT(M) threads on the cell at the top	
9	Body and sensor wetted materials	Titanium / PPS 40GF and Glass	
10	Measuring Range	0 -14 pH	
11	Sensor cable length	Fixed cable of 20-meter length or as per requirement	
12	Temperature Compensation	Pt 1000RTD	
13	Sensor Operating Temp.	Up to 100 DegC	
14	Sensor Operating Pressure	0-10 bar (g)	
	B. TRANSMITTER	0-10 bai (g)	
	b. IRANSIVIITER	Haivered Transmitter Microprocessor based	
1	Туре	Universal Transmitter, Microprocessor based, Modular type	
2	Display	Graphical colour LCD with touchscreen and full screen display with worded warnings and operating menu structure	
3	Make	OEM	
4	Model	As per the system requirement	
5	Enclosure rating	IP66, NEMA 4X	
6	Display units	pH	
7	Case Material	SS / Al Alloy Cast	
8	Ambient Operating Conditions	Ambient Temperature: -20 to 55 DegC Relative Humidity: 10 to 90% RH at 40°C (Non- condensing)	
9	Data Refresh Interval	Maximum 1 Sec	
10	Power Supply	110VAC – 240 VAC	
11	Accuracy / Repeatability	± 0.01 pH	
12	Linearity	± 0.01 pH	<u> </u>
13	Mounting accessories along with SHS	To be provided. SHS components to be consider to meet the process conditions sustain by analyzer / sensors	
14	Cable glands	1/2" NPT (F) cable glands to be supplied.	
15	Analog outputs	4~20mA analog outputs with HART, for each measurement	
16	Temperature Compensation	Automatic 0- 100 degC (at 25 °C), process-based compensation for acids and bases Pt1000	
17	Programming facility	Bi-Directional HART (Minimum HART 7 Protocol), should be communicate with universal HART communicator.	
18	Calibration facility	Automatic calibration	
19	Safety approvals	General Purpose UL/CSA 61010-1 with safety Mark	

20	Electrical connection	½"NPT Conduit	
		System status messages for measurement errors,	
		input errors, output errors, alarm conditions,	
21	Diagnosis	calibration, Online sensor diagnostics, sensor	
		wellness and predictive maintenance, worded	
		warning. Vendor to furnish details.	

I.	TF	warning. Vendor to turnish details. CHNICAL SPECIFICATION FOR CONDUCTIVITY SENSOR & ANALYZ	'FR
S/N	DESCRIPTION	SPECIFICATION SPECIFICATION	Vendor Confirmation
	. SENSOR	0.200	
1	Measuring Method	Two electrode Type	
2	Make	OEM	
3	Model	As per the system requirement	
4	Mounting Type	Flow through Chamber SS316 in SWAS wet panel	
5	Cell Constant	cell constant should be 0.02/cm or 0.01/cm	
6	Response Time of temp element	T90 less than 1 min	
7	Insulation	PEEK 450 G	
8	Process Connection	3/4" NPT(M) threads on the cell at the top	
9	Body & Electrode	SS316L (Body & Electrode should be same MOC)	
10	Measuring Range	0-4000 uS/cm	
11	Sensor cable length	Fixed cable of 20-meter length or as per requirement	
12	Temperature Compensation	Pt 1000RTD	
13	Sensor Operating Temp.	0-100 DegC	
14	Sensor Operating Pressure	0-10 bar (g)	
В	. TRANSMITTER		
1	Туре	Universal Transmitter, Microprocessor based, modular design	
2	Display	Graphical color LCD with touchscreen and full screen display with worded warnings and operating menu structure	
3	Make	OEM	
4	Model	As per the system requirement	
5	Enclosure rating	IP66, NEMA 4X	
6	Display units	μS/cm, mS/cm, S/cm	
7	Case Material	SS / Al Alloy Cast	
8	Ambient Operating Conditions	Ambient Temperature: -20 to 55 DegC Relative Humidity: 10 to 90% RH at 40°C (Non-condensing)	
9	Data Refresh Interval	Maximum 1 Sec	
10	Power Supply	110VAC – 240 VAC	
11	Linearity	± 1% of full-scale	
12	Repeatability	± 1% of full-scale	
13	Mounting accessories along with SHS	To be provided. SHS components to be consider to meet the process conditions sustain by analyzer / sensors	
14	Cable glands	1/2" NPT (F) cable glands to be supplied.	
15	Analog outputs	4~20mA analog outputs with HART, for each measurement	
16	Temperature Compensation	Automatic 0- 100 degC (at 25 °C), process-based compensation for acids and bases	
17	Programming facility	Bi-Directional HART (Minimum HART 7 Protocol), should be communicate with universal HART communicator.	
18	Calibration facility	Automatic calibration	

19	Safety approvals	General Purpose UL/CSA 61010-1 with safety Mark
20	Electrical connection	½"NPT Conduit
21	Diagnosis	System status messages for measurement errors, input errors, output errors, alarm conditions, calibration, Online sensor diagnostics, sensor wellness and predictive maintenance, worded warning. Vendor to furnish details.
22	Certifications	EMC: CE compliant for conducted and radiated emissions CISPR 11 (Class A limits) / EMC Immunity EN 61326-1 (Industrial limit)

	TECHNICAL S	SPECIFICATION FOR DISSOLVED OXYGEN SENSOR &	ANALYZER
S/N	Description	Specification	Vendor Confirmation
	. Sensor Details		
1	Туре	Optical type for ppb range trace level DO measurement	
2	Measuring Range	0 -500 ppb	
3	Make	OEM	
4	Model	As per the system requirement	
5	Measuring Range	0 PPB - 2 PPM	
6	Accuracy	±3 ppb or 3% of reading whichever is greater in the range of (0 - 2000 ppb)	
7	Repeatability	±3 ppb or 3% of reading whichever is greater	
8	Response time (t90)	Less than 90 sec	
9	Resolution	0.1ppb	
10	Lowest Detection	Less than 1 ppb or better	
11	Sensor Operating Temperature	0- 50 Deg C	
13	Sample pressure	sensor withstanding pressure should be 12 kg/cm2 or higher	
14	Temp. compensation	Automatic Pt1000 RTD	
15	Application	Suitable to Thermal power plant cycle water chemistry	
-	3. Transmitter Dissolved		
1	Туре	Micro Processor based, Single Channel only. Dual or multi- channel not acceptable	
2	Make	OEM	
3	Model	As per the system requirement	
4	Power supply	230 V AC±10% or better	
5	Display	Touch screen, Graphical LCD with LED backlit display with simultaneous reading of DO and sample temperature of each sample.	
6	Diagnostic	error flush facility will be provided on display	
7	Output	4-20 mA DC isolated for each stream	
8	Standard	Electromagnetic compliance EN-61326	
9	Ambient temp.	0- 55 Deg C	
10	Relative Humidity	RH 10 to 90% RH at 40°C (Non-condensing)	
11	Ingress Protection	IP66/NEMA 4X or better	
12	Housing	Chemically resistant coating with Epoxy polyester painted or polycarbonate, NEMA 4X	
13	Interfacing	Programming facility through local touch screen display	
14	Mounting Location	DRY panel of SWAS	
15	Application	Suitable to Thermal power plant cycle water chemistry	

	<u>Ti</u>	ECHNICAL SPECIFICATION FOR SILICA ANALYZER	
S/N	Description	Specification	Vendor Confirmation
1	Туре	Micro Processor based ,multi channel	
2	Make	OEM	
3	Method	Method of analysis for colorimetric measurement	
4	Measuring Range	0.5 to 1000 PPB as reactive silica (SiO2)	
5	Display	Digital (LCD / LED)	
6	Accuracy / Repeatability	5% of reading or ±1 ppb, whichever is greater, in the Range of 0.5 to 300 ppb.	
7	Cycle Time	10-15 Minutes	
8	Lowest Detection Limit	< 1 ppb	
9	Programming	from Front panel local touchscreen/keypad	
10	Ambient Temp.	5 to 45 DegC	
11	Relative Humidity	5 to 95 %, Non-Condensing	
12	Ingress Protection	NEMA 4X/IP66	
13	Standard	Electromagnetic compliance EN-61326	
14	Power Supply	230 V AC±10% or better,50Hz	
15	Current Loops	4-20 mA DC isolated (one for each channel)	
16	Remote connectivity	RS485 Modbus for digital connectivity	
17	Auto-zero facility	auto-zero facility should be available	
18	Diagnostics	Lack of sample, photometer fault & calibration error etc.	
19	Temperature	Automatic Temperature compensation	
20	Calibration	Automatic Zero and Span calibration facility	
21	Sample Pressure	sensor withstanding pressure should be 6kg/cm2 or higher	
22	Sample temperature	10-45 Deg C	
23	Reagent delivery system	Single Peristaltic pumps / mico-dosing pumps/compressed air system (multiple peristaltic pump system is not acceptable)	
24	Grab Sample	Grab sampling facility should be available	
25	Mounting Location	DRY panel of SWAS	
26	Application	Suitable to Thermal power plant	

BOQ

Sl.No.	Description	Qty	Unit
1	Design, Engineering, Supply, Erection, Testing & Commissioning of SWAS for SWAS for UNIT#1 & UNIT#2.	2	Set
2	Installation & commissioning charge for the above supplied systems	2	Lot

Note:

- 1. The above quantities are to include **both Unit-1 and Unit-2**.
- 2. All specifications, scope of work, and technical requirements mentioned in this document shall be applicable **identically to both units**.
- 3. The bidder shall consider complete design, engineering, supply, erection, testing, and commissioning of the **SWAS systems for Unit#01 & Unit#02**, including all associated instruments, sensors, analyzers, panels, and accessories as per the technical specifications enclosed.
- 4. Each unit's system shall be supplied, installed, and commissioned as an independent working setup, with necessary spares and documentation provided separately for each unit.

Guarantee/Warrantee- The work carried out shall be guarantee for 03(Three) Years from the date of commissioning/charging of the system. If any defect is observed in the equipment which can be attributable to poor workmanship, it has to be attended free of charge. For that contractor has to mobilize the manpower when the shutdown is available.

Schedule I

Form of Application of EOI for Upgradation of SWAS system of Unit-1&2 of ITPS

(TO BE PRINTED ON THE LETTER HEAD OF THE INTERESTED AND SIGNED)

Ref No.	Date:
(This is only an enquiry for short listing of agencies to Unit-1&2 of ITPS).	wards enlistment for Upgradation of SWAS system of
To General Manager (SCM) ITPS, OPGC, Banharpalli, Jharsuguda, Odisha 768234	
Dear Sir,	
We are interested in Upgradation of SWAS system of willingness to participate in RFP as and when OPGC in	
With reference to your invitation for EOI datedrequired details:	, we are furnishing herewith all the
Name of the Company and Address	
Whether the company is Govt. firm / Private owned	
f you are served to the industries, kindly provide details of experience as per format at Schedule III	
Name and Designation of the contact person	
Address	
Mobile Number	
E-Mail Address	
Any other relevant information	
Place:	Date:
Name: In the Capacity of: Signed: Duly authorized to sign the application for and on beh	nalf of: (Seal of the company)

Schedule II

(TURNOVER OF THE COMPANY IN THE LAST THREE FINANCIAL YEARS)

SI. No.	Financial Year	Turnover amount (In Bidder's Currency)	Turnover amount (In Million ₹)	Exchange Rate as on seven (7) days prior to Last date of submission of EOI
1.				
2.				
3. he Turr	nover Certificate	to be certified by Cha	rtered Accountant/ Au	iditor.
	nover Certificate	to be certified by Cha	rtered Accountant/ Au	uditor.

Duly authorized to sign the application for and on behalf of: (Seal of the company)

SI.	Project	(EXPERIENCE) Project	Remarks	_
No	Name	location	Kemarks	
			+	
10tc. 1. pr	ease attach enem s eer	tificates/Other relevant ce	itimeates.	

Duly authorized to sign the application for and on behalf of: (Seal of the company)

Place:

Name:

Signed:

In the Capacity of:

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Date:

Schedule IV

(UNDERTAKING FOR PREVENTION OF FRAUD AND CORRUPTION) (To be provided on Rs.100/- Bond)

TO BE STAMPED IN ACCORDANCE WITH THE STAMP ACT and TO BE NOTARIZED BY A NOTARY PUBLIC	
Affidavit of ShriS/OAged aboutR/OR/O	
 I, the above named deponent do hereby solemnly affirm and declare as under:- That I am working as (Designation) in (name and address of the bidder) since	
DEPONENT	
Verification:	
Verified at	
DEPONENT	

Expression of Interest (EOI) For Upgradation of SWAS system of Unit-1& 2 of ITPS	
	Schedule – V
(ANY OTHER INFORMATION)	
Additional Information relevant to the work / assignment is enclosed.	
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