

TENDER SCHEDULE

Supply, installation & commissioning work of complete restoration of Auto Control System, Alarm System and Interlock Protection of emulsifier system for GT, ST, UAT and MOT rooms for unit No. I,II,III & IV at SGTPS, MPPGCL, Birsinghpur.

Sr. No.	Description	Qty. (Nos.)
(A)	Supply part	
01	Intelligent emulsifier of Microprocessor based control panel (Control panel should be UL/FM approved with required UL/FM Listed Fibber Modules as per site conditions.) Control panel should be BS EN 54 standard Display should be touch screen Control panel should have feature to alarm acknowledgement function. Panel should have seamless integration with dynamic connectivity features of wireless systems.	06
02	Graphic user interface (Interface should be UL/FM Listed Graphic System- DV Control application with required hardware and display) Graphic software supports dual screen (1 for location image and 2 for listing active events) Software will show full map navigation using configurable buttons.	05
03	Mimic panel (MIMIC Panel using UL/FM listed active components, Sufficient display indicators, required SMPS, Power back up, Control Buttons for DV operation.) Cabinet should have cooling fan automation, emergency lighting system, tamper notification facility. Capable to received input from 2 sources, failure of primary sources auto shift to secondary sources.	01
04	Pressure vessel Size should be 1500 mm * 600 mm diameter . Pressure should be 150 psi, floor mounted type.	01
05	DV control panels (DV Panels with ON / OFF operation as per site conditions. Including Mounting Arrangement on MS angle grouting) Pressure switch should be weather proof. Hydrant switch should be dual contact type. Made up of UL94 V0 grade material with 190 °C melting point.	18
06	Monitoring device (Monitoring device should be Analog addressable Intelligent Monitoring Devices UL/FM Listed) Junction box made of UL94 listed ABS V0 grade material with 190 °C melting point.	100
07	Control devices :- (Control device should be Analog addressable Intelligent Monitoring Devices UL/FM Listed) Junction box made of UL94 listed ABS V0 grade material with 190 °C melting point.	100
08	Triple IR/UV explosion proof flame detectors:- (Flame detectors Should be Explosion proof and UL/FM Listed) Junction box made of UL94 listed ABS V0 grade material with 190 °C melting point.	12
09	Indoor notification :- (Indoor notification should be Addressable Intelligent Audio and Visual Notification devices UL/FM Listed) Having built amplifier and selectable dual message alert. Sound level adjustment, capable to convert as hooter cum strobe or speaker cum strobe. Device shall be made up of UL94 certified V0 grade with 190 °C melting point. Junction box made of UL94 listed ABS V0 grade material with 190 °C melting point	07
10	Outdoor notification :- (Outdoor notification should be weatherproof Addressable Intelligent Audio and Visual Notification devices UL/FM Listed) Having built amplifier and selectable dual message alert. Sound level adjustment, capable to convert as hooter cum strobe or speaker cum strobe. Device shall be made up of UL94 certified V0 grade with 190 °C melting point. Junction box made of UL94 listed ABS V0 grade material with 190 °C melting point	10
11	Power supplies :-	10

	(Power supply 24V/4A wall mounted, suitable for 230 V AC supply, Automatic battery charger, 2 nos. UPS (2KVA) system, 24 volts Lead Acid batteries sufficient for 24 hours normal working & capable of operating the system for 30 minutes during an emergency condition)	
12	Communication cable-copper :- (2 Core *1.5 sq mm Fire Survival armoured communication cable with Glands and accessories)	8000 mtrs.
13	Communication cable-fiber :- (6 core armoured Fiber communication cable including required Media converters, Pigtails, Patch Cord, Terminal Box etc.)	600 mtrs.
14	Other accessories like : HDPE pipe, pressure gauges, pressure switches, isolating valves, solenoid valves, media converter, cable gland, ferrules, cable ties and other required accessories.	L/S
(B)	Work Part	
01	Laying of above 6 core armored Fiber / 2 core 1.5 sq. mm fire survival armored communication cable with Underground GI pipe, Cable Tray etc. required as per site condition.	1 Job
02	Design, Installation, Commissioning & Testing of above equipment and trial of complete emulsifier system	1 Job

Note: L1 Bidder shall be decided on overall lowest package basis.

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Supply, installation & commissioning work of complete restoration of Auto Control System, Alarm System and Interlock Protection system with latest emulsifier system for GT, ST, UAT and MOT rooms for unit No. I,II,III & IV at SGTPS, MPPGCL, Birsinghpur

Detailed Technical Specifications Cum Tender schedule Scope of work / supply

1.00 INTENT OF SPECIFICATION

- 1.01 This specification is intended to cover design, supply, installation, testing and commissioning of latest Emulsifier system for GT, ST, UAT and MOT rooms for unit No. I,II,III & IV at SGTPS, MPPGCL, Birsinghpur.
- 1.02 It is deemed that technical bid shall be submitted by the bidder to be completed in all respects, after making him clearly and fully conversant about the scope of work and requirements covered under this specification.
- 1.03 Any material required in order to meet the intent of this specification and to make the required system completely functional in an acceptable manner to MPPGCL is under the scope of bidder, whether the same is specifically indicated or not in this specification or In the bill of material submitted by the bidder along with their bid.
- 1.04 Software development, logic, protection & interlock for the complete emulsifier system shall be as per latest development and as per requirement of MPPGCL.
- 1.05 Supply of all equipments, materials and commissioning of the systems/items up to the satisfaction of the MPPGCL.
- 1.06 The bidder shall manage to provide sufficient knowledge for programming, normal servicing of system to his site engineering up to the satisfaction of MPPGCL.
- 1.07 MPPGCL shall not be liable for any compensation to the bidder or his representatives working at site, if any damage caused to man or material supplied in lieu of negligence offered by bidder/his representative working at site, all the factory & safety rules shall to be followed by bidder/his representatives at site.
- 1.08 The equal amount shall be recovered from bidder, if any damage is caused to MPPGCL's property by him/his representative working at site.
- 1.09 The necessary T&P man power wires, lugs, ferrules, terminal blocks or any other necessary accessories shall be arranged by the bidder.
- 1.10 The offered system software of intelligent emulsifier of microprocessor based control panel and graphic user interface should be highest / latest version in all respect like graphics, graphical representation, alarm & interlock protection system etc.

2.00 SCOPE OF WORK

- 2.01 The scope of work of this specification covers the solution design, delivery of material FOR destination cabling erection testing & commissioning of the offered emulsifier system for GT, ST, UAT and MOT rooms for unit No. I,II,III & IV at SGTPS, MPPGCL, Birsinghpur.
- 2.02 since the above proposal is for complete supply and successful commissioning of emulsifier system in all respect so bidder shall have to visit the site for complete assessment of proposed item and related scope of work, copper cable, fiber cable etc.
- 2.03 Any additional work if felt necessary for completeness of the work after visit of site for supply & installation point of view for renovation / replacement of proposed emulsifier system shall have also be included by the bidder within their scope.
- 2.04 Successful performance demonstration after commissioning shall be carried out by the bidder following point shall also be included in bidder scope.
- 2.05 **All 2 core *1.5 sq.mm fire survival armored communication cable should be layed through cable tray / underground from CW pump house to fire station, GT, UAT, ST- (01 to 04) to ECR, MOT room to ECR, ECR to MCR-01 to 04**
- 2.06 **Fiber communication cable should be layed through HDPE pipe on cable tray from fire station to ECR or / and between any two places as required during the commissioning of the system.**
- 2.07 **Erection & commissioning of pressure vessel, installation of monitoring & control device, pressure switches & gauges at CW pump house and at other associated sites.**
- 2.08 **Installation & commissioning of 24V / 4Amp. Power supply, Mimic Panel, Emulsifier control panel, Annunciation panel, monitoring & control device at fire station and at other associated sites.**
- 2.09 **Installation & commissioning of 24V / 4Amp. Power supply, Graphic user interface, Emulsifier control panel, Annunciation panel at ECR and at other associated sites.**

- 2.10 Installation & commissioning of indoor notification (Annunciation panel) at CW pump house, fire station, ECR and MCR-unit No. 01 to 04 and at other associated sites.**
- 2.11 Installation & commissioning of DV Control panel, 24V / 4Amp. Power supply, Flame detectors & Outdoor Notification (Annunciation panel) in MOT room of unit No. 01 to 04 and at other associated sites.**
- 2.12 Installation & commissioning of DV Control panel, Outdoor Notification (Annunciation panel), Control device, Monitor device & 24V / 4Amp. Power supply, at near suitable place of GT, UAT-01&02 of unit No. 01 to 04 and at other associated sites.**
- 2.13 Installation & commissioning of DV Control panel, Outdoor Notification (Annunciation panel), Control device, Monitor device & 24V / 4Amp. Power supply at near suitable place of ST. TX -01 & 02 of unit No. 01 & 02 and at other associated sites.**
- 2.14 Installation of pressure switches & gauges on DV control valve of emulsifier system of GT, UAT, ST of unit No. 01 to 04 and at other associated sites.**
- 2.15 Installation of Media converter at fire station & ECR.**
- 2.16 Cable termination, gland & accessories i.e. lugs, ferrules, cable ties etc shall be in bidder scope.**
- 2.17 Preparation and submission of drawing / documents for approval to MPPGCL shall be in bidders scope.
- 2.18 Any specials tools & tackles required for the subjected work shall be in bidder scope.
- 2.19 Submission of QA/QC plans, inspection & testing of the equipment, submission of test certificate.
- 2.20 The bidder must submit details of the recommended spares and special tools & tackles (if any)
- 2.21 Only accommodation in erector hostel if available shall be provided by the MPPGCL for the site engineers rest of the expenses are to be born by bidder / firm.
- 2.22 All assembling work are in bidder's scope.
- 2.23 All maintenance services (e.g. replacement of equipment against manufacturing defect and repairing shall be in bidder's scope during the warranty period).
- 2.24 After successful completion of all the above activities, proper functioning / operation of the system equipments, networking device, control panel and its auxiliaries is to be insured by the service engineer as per the direction of EIC.
- 2.25 All tools and tackles, required for the above work shall be arranged by the contractor.
- 2.26 All precaution and safety measures shall be taken by the contractor.
- 2.27 The work should be completed within 30 days from the date of handing over the cite.

3.00 GENERAL DESIGN CRITERIA

- a) All equipment/systems and accessories shall be from the latest proven product range of qualified manufacturer meeting the requirements given in this Specification. The Bidder shall furnish satisfactory evidence regarding successful operation & commissioning and high reliability of the proposed equipment/systems in NTPC/other reputed power sectors for similar applications for meeting this requirement as specified elsewhere.
- b) The equipment and systems shall be designed and constructed to meet all specification requirements, and perform accurately and safely under the environmental and operating conditions described or implied in this specification without undue heating, vibration, wear, corrosion or other Operating troubles. It will be the responsibility of the Bidder to fully acquaint himself with the functional requirements and operating conditions, for equipment systems and accessories offered for this project. Additional features shall be provided where required to meet the service conditions, functional or descriptive requirements stated in individual specification for these equipment / systems.
- c) Even after the guarantee period, the Bidder shall be responsible for providing spare parts and other required support at reasonable cost during the service life of the plant. The spares & the services support shall be available for at least 10 years from the date of commissioning.

4.00 Data and documents to be furnished by the Bidder

Bidder shall furnish system description, operational write-up, bill of materials, drawings, data, information, technical catalogues, test certificates and other detail as required to fully establish the capability and performance of the equipment and systems offered. Any bid not containing the sufficient details to fully describe the equipment and system offered may be treated as non-responsive.

Each Bid shall contain the information but not limited to the following: -

- a) Complete bill of materials of all items indicating make, model, power requirements, detail soft accessories etc. required to establish product quality and Scope of Supply. The make, model no., of devices shall be subject to MPPGCL approval.
- b) Write-up high lighting design considerations, working principles etc.
- c) Data sheets and catalogues.
- d) Schematic drawing.
- e) Bill of materials for special cable and cable accessories (if any).
- f) List of recommended and mandatory spares for all equipment's.
- g) Filled in Technical particular sheets.
- h) List of reference of similar system already in service with complete performance record details.
- i) All other documents not specifically mentioned here but required for completion of engineering work and proper coordination shall be unit wise.

5.00 Data and Documents to be furnished by the Contractor

On award of the contract, the successful Bidder (Contractor) shall submit progressively, all drawings and documents for approval of MPPGCL at different stages of the contract. Contractor shall revise the drawings in line with MPPGCL comments and resubmit till MPPGCL approval is accorded to the drawings. The Drawings/documents shall include but not to be limited to the following. After award of the Contract, MPPGCL, in association with Contractor, will draw up a list of drawings/document deliverables with corresponding submission schedule and will assign review status of either "A" (for approval) or "I"(for information)to each deliverable:

- a) Final version full drawings and data submitted along with the proposal.
- b) Schedule of instruments and data sheets.
- c) Internal panel wiring diagrams and terminal block arrangement drawings shall be unit wise.
- d) Operation and Maintenance instruction manual.
- e) Final QAP for various Instruments, Local Control Panels etc.
- f) GA Drawings for local panels.

6.00 QUALITY ASSURANCE

6.01 All the instruments like intelligent emulsifier control panel, graphic user interface, mimic panel, monitoring device, control device, indoor notification, outdoor notification & flame detector should be UL/FM listed.

7.00 WARRANTEE

7.01 Supplier / contractor shall be responsible for completion of above along with 12 months from the date of commissioning or 18 months from the date of delivery, their engineer should be made available within 02 days after raising the problem throughout the warrantee period, free replacement / repair shall be done if any equipment related to emulsifier system fails during warrantee period.

8.0 TRAINING OF NEW EMULSIFIER SYSTEM : -

- The bidder should arrange the training program of renovated Emulsifier system (operation & maintenance) to our maintenance/operation staff & officer preferably in SGTPS site (after installation of system).

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