
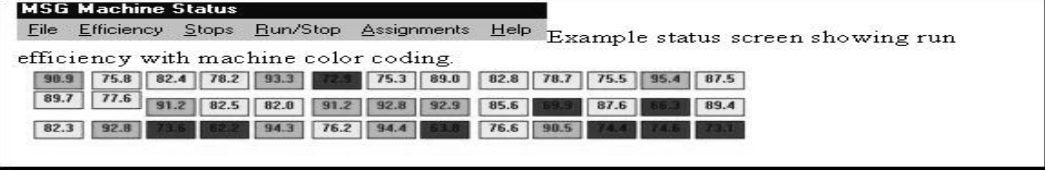


INDENT No. C/3991/7/3124/T FOR AREA MANAGER SYSTEM FOR MACHINE MONITORING SYSTEM, REPORT GENERATION & STATUS DISPLAY					
	BHARAT HEAVY ELECTRICAL LIMITED			Indent No. : C/3991/7/3124/T	
	UNIT'S ADDRESS: HEEP, RANIPUR			Enquiry No. : Due Date :	
CONTACT PERSON FROM PURCHASE DEPTT.:			Supplier Qtn. No.:	Date :	
<u>SPECIFICATION CUM COMPLIANCE CERTIFICATION FOR AREA MANAGER SYSTEM FOR MACHINE MONITORING, REPORT GENERATION & STATUS DISPLAY Qty. =1 No.</u>					
NOTE :-					
<p>1. Vendor must submit complete information against clause at Sl.No. 5.0 (Qualifying condition)The offer, complying this clause, would only be considered.</p> <p>2. The vendor should fill the "Offered" Column in compliance to specified requirements and also "Deviations" Column, where there is deviation from the requirement. Duly filled specification cum compliance certificate should be submitted along with the offer. Inadequate, incomplete, ambiguous or unsustainable information against any of the clauses of the specifications/ requirements shall be treated as non-compliance.</p> <p>3. The offer and all documents enclosed with offer should be in English language only.</p>					
ADDRESS OF THE SUPPLIER :			ADDRESS OF THE INDIAN AGENT(S) :		
TELEPHONE NOS.:			TELEPHONE NOS.:		
FAX NOS.:			FAX NOS.:		
E-MAIL ADDRESS :			E-MAIL ADDRESS :		
SCOPE	SUPPLY INSTALLATION & COMMISSIONING OF AREA MANAGER SYSTEM FOR MACHINE MONITORING,REPORT GENERATION & STATUS DISPLAY of 13 No. CNC MACHINES OF NBS-III NO.OF SYSTEM = 1 No.				
SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
1.0	<p>Purpose: The system is meant for monitoring , report generation and real time status of 13 Nos. CNC machines installed/to be installed in New Blade Shop. Out of 13 machines, 4 machines are installed in one bay & 9 Nos.machines will be installed in adjacent bay of shop.Following Tapped Signals will be availabe specially earmarked terminal strip & sourced from Simatic S-7-PLC output to the vendor from the control systems of the machines. i) Power ON / OFF</p> <p>ji) Control ON / OFF</p> <p>iii) Program Cycle on</p> <p>iv) Spindle running (in all modes)</p> <p>v) Axis feed start for various axes of machines</p> <p>vi) Axis feed stop for various axes of machines</p> <p>vii) Programme Stop. viii) Emergency stop. Tapped signals available on 13 Nos. CNC machines</p>	Vendor to Accept			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.0	Specifications :				
2.1	<p>Machine & job status monitoring system : The system should have following capabilities :(a) On-line status of any selected CNC machine as well as all the CNC machines simultaneously through signals which are coming continuously from the hardware recording link.</p> <p>(b) The hardware data recording unit should be capable of recording the signals with real time & date.</p> <p>(c) The hardware data recording unit should have battery back-up memory 128 MB upgradeable upto 1 GB storage capacity.</p> <p>(d) The recording unit will have battery operated power supply for minimum 30 minutes in case of power supply failure or the machine supply is switched off due to Sundays, Holidays or any other reason.</p> <p>(e) The system shall be capable of displaying following reports :</p> <ul style="list-style-type: none"> • Signal flow graph • Bar Chart • Pie Chart • Line Chart <p>The system should be capable of directing output of these above reports to the attached printer as well as to a file in MS Word/Excel/pdf.</p> <p>(f) The system should have provision to view these reports for any time period of the year.</p> <p>(g) Should be able to generate automated programmed SMS & email & send to the given no & address respectively.</p> <p>(h) Should be able to launch the data on Departmental Intranet Site in html format</p> <p>(i) Shall display a color coded machine floor layout to display status information. Option to select data to display such as efficiency, stops, run/stop status, etc.as shown below</p>	Vendor to offer			
	 <p>The screenshot shows a software window titled "MSG Machine Status". The menu bar includes "File", "Efficiency", "Stops", "Run/Stop", "Assignments", and "Help". Below the menu bar, there is a text label "Example status screen showing run efficiency with machine color coding." followed by a grid of 24 small boxes, each containing a numerical efficiency value. The values are: 90.9, 75.8, 82.4, 78.2, 93.3, 77.8, 75.3, 89.0, 82.8, 78.7, 75.5, 95.4, 87.5, 89.7, 77.6, 91.2, 82.5, 82.0, 91.2, 92.8, 92.9, 85.6, 87.6, 88.2, 89.4, 82.3, 92.8, 71.8, 82.3, 94.3, 76.2, 94.4, 83.0, 76.6, 90.5, 77.4, 74.8, 77.1.</p>				
2.2	<p>Report Generation System :</p> <p>The system should be capable of generating machine wise & shift wise / operator wise reports in terms of number of jobs planned, number of jobs produced, down time shift wise, Efficiency listings, Machines with high stops, Low efficiency machines, Down machines current shift, previous shifts, combined shifts, week-to-date or user defined periods. Automatic end-of-shift reporting . Reports can cover any period and be scheduled to run at any time in a mutually agreed format.</p>	Vendor to offer			
2.4	<p>Specifications of Display System :</p> <p>Each machine will have TFT/LCD display system to display the shift wise set target, current job status, current efficiency level etc.The display system should be clearly readable from a distance of 6 metres & from angles also. Vendor has to give demonstration of offered display system during technical discussion & final option of TFT/LCD will be decided only after the offered display system found to be useful. Also the location & mounting of display system to be decided during the technical discussion.Vendor shall offer all the required complete software & hardware. This broad guidelines for display unit shall be as follows :</p>	Vendor to accept			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.8	Machine Status Monitoring System Hrdware				
2.8.1	Hardware Unit for On Line data collection for Signal Monitoring from 13 CNC machines as per clause 2.1. Power backup facility for data recording through UPS as per clause 2.1(d).	Vendor to offer separately			
2.8.2	PC Hardware				
	1 No. PC of HP/Compaq Pentium -IV 2.80 GHz processor or more, 1 GB DDR2, 120GB HDD, DVD R/W drive, 17" TFT colour Monitor, Optical Mouse, Keyboard, and Anti-static cover, installed with Ethernet LAN Card 10/100 Base with licensed copy of latest WINDOWS based Operating System.(Host PC for Data collection) with 2 nos.front USB port .(Latest Ver at the time of order)	Vendor to offer separately			
2.8.3	Printers: Coloured A4 Size Printer (HP Make model 1600 or equivalent) - 1 No.	Vendor to offer			
2.8.4	Note : Vendor to quote price of PC & PRINTER mentioned in clause 2.8.2 & 2.8.3 respectively separately.				
2.8.5	UPS : 1 KVA on-line UPS to ensure automatic unattended shutdown of the system in case of power failure or even in normal machine shutdown.	Vendor to offer			
2.9	Software for processing of data of signals collected Through Hardware unit, display of Signal Flow graph and generation of other reports for display, saving and printout on attached printer	Vendor to offer			
2.10	Suitable CNC EDITOR Software shall be offered	Vendor to offer			
2.11	Networking :				
	Cabling of Hardware Unit for Data Collection of various machines to Host PC mentioned at SL. No.2. I. Cable & Cable laying in metal conduit for underground and PVC conduit for surface cabling with requisite connections.The party to offer the necessary hardware and software required also along with complete details of the available features shall be submitted.	Vendor to offer			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
2.12	Technical supply / Environmental Conditions :				
	The machine set up shall be suitable for operation in the following conditions:	Vendor to Note			
2.12.1	Voltage : 415 V + 15/-15 % or 220 V +15/-15%	Vendor to Note			
2.12.2	Frequency : 50 Hz +/- 3%	Vendor to Note			
2.12.3	Temperature : 20 to 30 degree Celcius in Air Condition hall	Vendor to Note			
2.12.4	Relative Humidity: 70 %	Vendor to Note			
2.12.5	Compressed Air available at BHEL : 4 to 5 Kg/Cm2	Vendor to Note			
2.12.6	No temperature controlled enclosure will be provided.	Vendor to Note			
2.12.7	BHEL shall provide power supply at single point near mschine. All types of cables, connectors etc. required for connecting BHEL supply to supplied equipement shall be responsibility of the vendor.	Vendor to Note			
2.13	Spares :				
2.13.1	The vendor shall offer recommended set of spares for trouble free operation of the machine for a period of two years with detailed item wise price list. Recommended spare parts (both electrical/electronics and mechanical) should also be quoted by the vendors.	Vendor to offer			
2.13.2	Complete hardware of Microcontroller based system with integrated PLCand GSM MODEM - 1 No.	Vendor to offer			
2.13.3	CompleteDisplay system - 2 No.	Vendor to offer			
2.13.4	Complete hardware Unit of on line data collection system - 1 No.	Vendor to offer			
2.14	Installation & Commissioning				
	Complete Installation & Commissioning of the System with establishment of all functionalities of the Software for MMS , display system & report generation system.	Vendor to confirm			
2.15	Documentation				
	Manuals: 5 sets of				
2.15.1	- Connector & Junction box diagram	Vendor to confirm			
2.15.2	- Cable layout & wiring diagram	Vendor to confirm			
2.15.3	- O & M manual of display system.	Vendor to confirm			
2.15.4	- Interface manual for SMS & email based Machine monitoring system(MMS)	Vendor to confirm			
2.15.5	- Deatailed maintenance manual of micro controller with built in PLC for sms based MMS.	Vendor to confirm			
2.15.6	- User program of integrated PLC (Hard Copy)	Vendor to confirm			
2.15.7	- Operation Manuals of the System	Vendor to confirm			
2.15.8	- Back up of software on CDs /DVDs	Vendor to confirm			
2.15.9	- Hard copy of setting data & parameter details	Vendor to confirm			
2.15.10	- Back up of parameter details & setting data on CD/DVD - 1No.	Vendor to confirm			
2.16	Final acceptance: Final acceptance shall be made by BHEL at BHEL, Hardwar after successful completion of installation & demonstration of all feature.	Vendor to comply			
2.17	Reference list of customers to whom such system have been supplied mentioning contact person of customer, year of supply etc.	Vendor to submit			
2.18	SAFETY ARRANGEMENTS :if any to be provided by the vendor	Vendor to provide			

SL. NO.	DESCRIPTION OF BHEL REQUIREMENT	REQUIRED	OFFERED	DEVIATION	REMARKS
3.00	TRAINING :				
	Training to BHEL personnel at executive, supervisor and operator level with proper handouts required for each application during installation of the system	Vendor to offer			
4.00	GUARANTEE				
	Guarantee for complete system and all supplied accessories/equipments for 24 months from the date of final acceptance of the system. It will be total responsibility of the vendor to maintain the system during guarantee .Any spare/ software required during guarantee period shall have to be arranged by the vendor free of cost and duty levied (if any) have to be borne by the vendor.	Vendor to offer			
5.0	QUALIFYING CONDITIONS				
5.1	Only those vendors , who have supplied & commissioned at least one no. of Machine Monitoring System consisting of at least 2 Nos. CNC machines and the system is presently running satisfactorily after installation for more than one year (on the date of opening of Tender) should quote. However, if the system has/had been supplied to BHEL, then the system should be presently running satisfactorily for more than six months (on the date of opening of Tender) after its installation and acceptance in BHEL. Following information should be submitted by the vendor about the companies where referred system have been supplied . This is required from all the vendors for qualification of their offer.	Vendor to accept & confirm.			
5.2	Name of the customer / company, where referred System is installed.	Vendor to inform			
5.3	Complete postal address of the customer.	Vendor to inform			
5.4	Month & Year of Commissioning .	Vendor to inform			
5.5	Details of the system supplied.	Vendor to inform			
5.6	Name and designation of the contact person of the customer.	Vendor to inform			
5.7	Phone no., FAX no. and email address of the contact person of the customer.	Vendor to inform			
5.8	Performance certificate from the customers regarding satisfactory performance of system supplied to them.	Vendor to submit			
5.9	BHEL reserves the right to verify information submitted by vendor. In case the information is found to be false/incorrect, the offer shall be rejected.	Vendor to accept & confirm			
6.0	Annual Maintenance Contract (AMC) :Optional				
	Modalities for Annual Maintenance contract of PC & Printer to be supplied alongwith the complete system to be submitted for a period of 5 years.	Vendor to offer			
7.0	SPECIAL INSTRUCTIONS				
7.1	The vendor should reproduce the specification and submit compliance / agreement / comment against each and every feature / item. Any deviation in the offer shall be clearly highlighted against that particular feature / item.	Vendor to confirm			
7.2	Reference list of parties to whom such equipment have been supplied shall be submitted alongwith the offer.	Vendor to confirm			