

TECHNICAL EVALUATION CRITERIA FOR ROTEK BALANCING PLANT CONTROL ROOM UPGRADE

Phase 1

NR	CRITERIA	RETURNABLES	EVALUATION RANGE	WEIGHT	SCORE	SCORE [%]
A.	PROJECT ORGANISATION AND RESOURCES			35%		
1.	The consultant / company has at least 5 years' experience in Industrial Electrical and Instrumentation design and installation / installation supervision.	Portfolio of evidence with proof of work completed successfully (e.g. previous invoices).	0 points: No experience. 2 points: < 5 years in reference list of work completed 4 points: ≥ 5 years in reference list and 1 project in list of completed work 5 points: ≥ 5 years in reference list and more than 1 project in list of completed work	10%		
2.	The validity of the CV's of the Lead Design Engineer(s) with experience in commissioning	CV's of Lead Engineer	0 points: No CV. 2 points: CV shows that there is less than 5 years' experience in Electrical and Instrumentation Design for the Lead Engineer and no experience in commissioning. 4 points: The Lead Engineer has more than 5 years' experience in Electrical and Instrumentation design, has ECSA Professional registration and has successfully commissioned at least 1 project. 5 points: The Lead Engineer meets the criteria for 4 points above and have each commissioned more than 1 project.	8%		
3.	The Consultant has a Quality Manual for installation QC and an Industrial IT resource.	Valid copy of the Quality Manual and associated copies of installation and commissioning check sheets / records, and proof of Industrial Network professional qualifications	0 points: No Quality Manual 2 points: Has a Quality Manual but no examples of installation and commissioning check sheets / records 4 points: Has a Quality Manual and examples of installation and commissioning check sheets / records. 5 points: Has a Quality Manual, is ISO9000 Quality Certified, and has at least 1 accredited Industrial Network professional in the design and commissioning team.	7%		

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4.	Subcontracting to complete the project – control room ergonomic design.	Provide a list and profile of consultant(s) to be used to complete control room ergonomic design.	0 points: No list, no profiles 2 points: Only list provided, no profile(s) 4 points: list provided, profiles provided, and profiles show relevant experience in the field of more than 5 years. 5 points: same as 4 points, but the profiles show relevant experience of more than 5 years in the field and successful completion of 1 project	10%		
B.	PROJECT EXECUTION METHODOLOGY			20%		
1.	Method Statement for conducting Phase 1 Investigative Work and produce designs for Procurement	Phase 1 Method Statement as per the Scope of Work	0 points: No Phase 1 Method Statement 2 points: Method Statement not detailing the Investigative work, locations, and how Equipment selection decisions will be made 4 points: Method Statement detailing the Investigative work, locations, how Equipment selection is made, and gives examples of typical products / systems used for this solution 5 points: Method Statement mentions all above in 4, plus the process followed for ergonomic design of the control room (incl. intended finishes of the room).	8%		
2.	Method Statement for technical assistance and commissioning supervision during Phase 2 of the Works	Phase 2 Method Statement as per the Scope of Work	0 points: No Phase 2 Method Statement 2 points: Method Statement describes only installation supervision, does not mention pre-shutdown installation methods and commissioning methods. 4 points: Method Statement installation supervision, pre-shutdown installation methods, and commissioning methods 5 points: Method Statement mentions all in 4 above, as well as testing methods during commissioning as well as training methods.	7%		
3.	Project Schedule for Phase 1	Level 3 Project schedule for Phase 1 of the Project	0 points: No schedules 2 points: Only level 2 schedules 5 points: A level 3 schedule for Phase 1 activities is supplied.	5%		

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C.	PLANT AUTOMATION AND HUMAN MACHINE INTERFACE			45%		
1.	HMI SCADA Functionality (incl. Process Information Weblink & reporting for Manager)	HMI hardware layout, including Servers; Network Layout; SCADA Application Software Options. Proof of familiarity with SCADA Software as per Scope of Work and associated Standards.	<p>0 points: No HMI hardware layout, no network layout, No proof of familiarity with the proposed SCADA Application software.</p> <p>2 points: Only HMI hardware and SCADA Application software options submitted, no proposed Network Layout submitted.</p> <p>4 points: All above in 2 points plus the Network Layout submitted. But no proof of familiarity with proposed SCADA software.</p> <p>5 points: All above in 4 points, plus proof of familiarity with proposed SCADA software</p>	8%		
2.	System Availability Considerations (Redundancy)	Sourcing methods (Locally available products), Redundancy of SCADA Servers, Hot-standby and hot swap requirements as per Scope of Work.	<p>0 points: No mention of target hardware suppliers and locality of spares availability. No mention of Redundancy principles to be used.</p> <p>2 points: Only mention of target hardware suppliers and the locality of spares availability.</p> <p>5 points: All in 2 points above and redundancy principles described to meet both hot standby and hot swap of the SCADA servers</p>	3%		
3.	Network System (Time sync, Backup and Restore) and Cyber Security Considerations	Network design approach, Time synchronisation options, Back Up methods during O&M as well as Cyber Security considerations as per Scope of Work and associated Standards	<p>0 points: No explanation of the Network layout (in 1 above), no description of time synchronisation options, no description of how system back up methods and no mention of cyber security methods</p> <p>2 points: Only explanation of Network layout and time synchronisation.</p> <p>4 points: All in 2 points above plus an explanation of how the Eskom Standards on Cyber Security will be met.</p> <p>5 points: all in 4 points above plus an additional description of backup and restore plans/procedures for this project.</p>	7%		
4.	Field Interface and Automation System	Signal distribution plans, I/O pick-up plans; and interlocking plans as per the Scope of Work and associated Standards	<p>0 points: no mention of how existing signals will be picked-up into digital format, and no explanation of how the existing relay logic will be transferred to digital format.</p> <p>3 points: only the pick-up of existing signals into digital format and signal distribution plan is explained.</p> <p>5 points: all in 3 points above plus an explanation of how the relay</p>	3%		

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			logic interlocks will be converted into digital format (and what function blocks are envisaged)			
5.	Equipment Power Supplies consideration	Analysis of existing power supplies, including power supply redundancy and the requirements of the Scope of Work	<p>0 points: No analysis of existing power supplies and the redundancy (backup systems);</p> <p>2 points: analysis of existing power supplies and their backup systems provided.</p> <p>5 points: based on the analysis, a concept plan description of how the requirements of the Scope of work will be met</p>	4%		
6.	System Maintainability considerations (Engineering Unit, Field Loop Drawings, SCADA Config unit, Equipment list, data sheets, Troubleshooting, etc)	Analysis of first line maintenance after completion of the project, and what tools and documents will be submitted to ensure this function is not jeopardized.	<p>0 points: nothing mentioned on the envisaged Maintainability of the new system.</p> <p>3 points: description of use of documents to be left over and the system tools to be used for maintenance.</p> <p>5 points: all in 3 points above plus details on training plan for the Employers' staff, and possible items that need to be kept as stock (proposed spares policy)</p>	7%		
7.	Field Instrumentation and CCTV integration	Identified instrumentation to be replaced or installed, and how the old CCTV system will be replaced and integrated into the new HMI system.	<p>0 points: no mention of possible instruments to replace, nor how the existing CCTV will be upgraded</p> <p>2 points: only the instruments to be replaced / installed are listed</p> <p>4 points: all in in 2 points above plus a concept description of the new proposed CCTV system</p> <p>5 points: all in 4 points above, including manual and brochures of the proposed CCTV system, as well as the instruments</p>	4%		
8.	Integration of the Balancing Panel functions into the SCADA HMI	The balancing panel with all its measurements and analysis and monitoring tools needs to be integrated into the new HMI so that the function of operating the balancing plant and monitoring the rotor	<p>0 points: this transition and the scope of integrating the Balancing Panel into the new HMI not discussed</p> <p>2 points: only mention of the function being possible and included in the scope of supply</p> <p>5 points: a detailed description of how the field signals and the specialised monitoring tools will be integrated into the new HMI, including any additional products required for such integration</p>	6%		

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		being balanced can be done on the new HMI as per the Scope of Work				
9.	Licenses and Warranties	Software Licence considerations as well as warranties as per the Scope of Work	<p>0 points: no mention of how licences and warranties will be handled during procurement</p> <p>3 points: only possible list of licenses and how these will be handled during handover is described</p> <p>5 points: all in 3 points above plus a list of warranties on equipment to be supplied. (warranties start applying after Client takeover of the works)</p>	3%		
TOTALS				100%		
Minimum qualifying threshold (≥ 70%)						

Notes: Based on the Returnables meeting the criteria, as specified in the Scope of Work and associated Standards, and judging where in the Evaluation Range the Returnable is, a score is given as per the Evaluation Range and put down under the Score column. The score is then multiplied by the weight % and divided by 5, and the result becomes the % Score. The % Scores are summed up to give the Total % Score.