

THE REFURBISHMENT OF DEMINERALISED WATER TREATMENT PLANT AT LETHABO POWER STATION FOR A PERIOD OF THREE (03) YEARS

MWP2184GX-R

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| 1. | 375-LET-BDDD-D00185-21 - Lethabo Power Station Demin Plant Refurbishment Technical Specification | 5.5 | 37 | Process battery limits for water inlet to cation vessel | On highlighted EFD 0.63/1633 provided in Appendix F2 of the Technical Specification, please confirm the battery limit for line 300-W-20004-AIK04 (line from sandfilters to cation vessel) as this is not highlighted on EFD 201. | The valve (08-10UB1[1-3]S001) is the starting point of the battery limit on drawing 1633 <u>including</u> the valve and accessories that will go with the installation of the valve itself. |
| 2. | 375-LET-BDDD-D00185-21 - Lethabo Power Station Demin Plant Refurbishment Technical Specification | 4.8 | 24 | Piping lengths | Section 4.8 states: "The pipework to be lined and supplied are approximated at the following segmented lengths for the different areas". The piping lengths are not supplied in the Technical Specification. In order for us to price the piping scope accurately, please provide: <ol style="list-style-type: none"> 1. Piping lengths 2. Line list 3. Piping BOQs 4. Piping isometrics | <ol style="list-style-type: none"> 1) There are no lengths apart from the General arrangement drawings sent on the bulletin. The original intent was to try and give lengths of the pipes, but due to the drawings that we have, we specifically made the contract activity based. The Contractor to base their scope on the available data, keeping in mind the contract is activity based. 2) See attached what we have. To be read in conjunction with the P&ID's. 3) None available, Scope activity based. 4) There are only some available, hence we did not attached them to the enquiry. See attached the little bit of available ISO's for the plant that needs to be refurbished. |

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| 3. | 375-LET-BDDD-D00185-21 - Lethabo Power Station Demin Plant Refurbishment Technical Specification | Appendix F2 | 249 | PID 0.63/1739 | PID 0.63/1739 is not legible. Please provide a clearer more legible version. | See attached. |
| 4. | 375-LET-BDDD-D00185-21 - Lethabo Power Station Demin Plant Refurbishment Technical Specification | Section 5.6.2 | 39 | Vessel flow dynamics assessment | <p>Please confirm if the specified Vessel flow dynamics assessment is required for all the following vessels:</p> <ol style="list-style-type: none"> 1. Cation vessels 2. Degasser vessels 3. Weak base anion vessels 4. Strong base anion vessels <p>Mixed bed vessels</p> | <p>In short yes. Refer to section 5.6.2: “The <i>Contractor</i> performs a process flow dynamics assessment of the <u>existing demineralised water production system at Lethabo Power Station</u>, to confirm the <u>hydraulics and flow dynamics across the system</u>, under all operating conditions that does not result in undue mechanical stresses on the plant components, which would ultimately result in the vessel failure.”</p> <p>PLEASE NOTE: Read all the requirements in this section 5.6.2, this is just a snippet.</p> <p>More specifically for each section there are some addition requirements which supplement the statement above for each below or if not the statement under 5.6.2 carries to the vessels below:</p> <p>Cation vessel:</p> |

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| | | | | | | <p>Refer to section 5.6.2 of the technical specification.</p> <p>Degasser vessel: Not required in the section of the degasser, but is inclusive of the statement under 5.6.2. Thus included as part of section 5.6.2.</p> <p>Weak base vessel: Refer to Section 5.8.2: "The Contractor is responsible to provide flow modelling of the distribution system to prove the even flow distribution through the system with no channelling occurring through the resin bed.</p> <p>Strong base: Refer to Section 5.9.2: "The Contractor is responsible to provide flow modelling of the distribution system to prove the even flow distribution through the system with no channelling occurring through the resin bed.</p> <p>Mixed bed vessel: Refer to 5.10: "The flowrate through the nozzles in production and in regeneration mode, as well as pressure drop across the nozzles must be taking into consideration when nozzles are selected. A pressure drop versus flow curve must be supplied together with the data sheet."</p> |

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| 5. | 375-LET-BDDD-D00185-21 - Lethabo Power Station Demin Plant Refurbishment Technical Specification | Section 5.6.2 | 40 | Hydraulic analysis | <p>Please confirm if the following software may be used for the hydraulic analysis as an alternative to Flonex:</p> <ol style="list-style-type: none"> 1. AFT Fathom for the Steady state analysis 2. AFT Impulse for the Transient analysis | <p>Flownex is preferred not stipulated as the only tool to be used.</p> <p>Can the Contractor provide costing for both softwares to be used? From a technical point of view both should be fine and will be acceptable, Flownex is preferred however as Eskom does have a license for the program, whereas AFT Fathom and Impulse would need to be procured afterwards.</p> |
| 6. | 375-LET-BDDD-D00185-21 - Lethabo Power Station Demin Plant Refurbishment Technical Specification | Appendix D4 | 242 | New silica and sodium analysers | <p>Rows 155 and 156 of the Instrument schedule state that the following New analysers are required:</p> <ol style="list-style-type: none"> 1. Strong base anion silica analyser 2. Mixed bed sodium analyser <p>Please clarify is these are required in addition to the existing analysers on the strong base anion and mixed bed vessels or are they a replacement of the existing analysers?</p> | <p>The tenderer should refer to line 155,156, 16 and 68 for sodium and silica analysers. The scope of work is detailed in the technical specification. Line 68 and 155 will be two new multi-stream silica analysers and line 16 and 156 will be two new multi-stream sodium analysers. All four these analysers are deemed as new installations as all cabling needs to be redone. These analysers are common between various vessels and demin trains. Refer to section 9.3 in the technical specification</p> |
| 7. | 375-LET-BDDD-D00185-21 - Lethabo Power Station Demin Plant Refurbishment Technical Specification | Section 11 | 132 | Civil/Structural BOQs | <p>Please provide BOQs for the Civil/Structural refurbishment scope of work</p> | <p>The Employer is using main Option A - Priced contract with activity schedule which is a lump sum form of contract where the work is broken down into activities. Each activity is priced by the tendering contractor as a lump sum. Refer to Part 2 of the contract for more information on</p> |

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| | | | | | | the activity schedule. Refer to section 11 for more information regarding the civil scope. |
| 8. | 375-LET-BDDD-D00185-21 - Lethabo Power Station Demin Plant Refurbishment Technical Specification | Appendix F2 | 249 | Battery limit for degasser sump filling line on PID 0.63/1634 | Please confirm the battery limit for line 250-WD-80001-A1E01. Is this at valve S001? | Yes. Tender to include from this valve towards demin plant. |
| 9. | 375-LET-BDDD-D00185-21 - Lethabo Power Station Demin Plant Refurbishment Technical Specification | Appendix F2 | 249 | PID 0.63/3349 | Please confirm the maximum volume or dimensions of the demin storage tanks, 00 UG 01/2/3 G001. | The demin storage tank dimension are as follow: 24.8 meter diameter x 6 meter height, overflow at 5.5m from the base. Volume about 2.65ML before tanks starts to overflow. |
| 10. | 375-LET-BDDD-D00185-21 - Lethabo Power Station Demin Plant Refurbishment Technical Specification | Appendix F1 Equipment list | 249 | Valves and actuators for PID 0.63/1739 | The following valves and actuators are located on the highlighted lines for PID 0.63/1739: 08-10UB30S001 08-10UB30S002 08-10UB30S003 08-10UB30S004 08-10UB30S005 08-10UB30S006 08-10UB30S007 08-10UB30S008 08-10UB30S009 08-10UB30S010 08-10UB30S011 08-10UB30S012 08-10UB30S013 | When filtering for "UB30" under the valve and actuator list under the "AKZ Identification" column the only valve not to be included is: <u>08-10UB30S043</u> It is not suppose to form part of the list. Is there any other valves of concern? This is specifically the rule for filtering "UB30" on the list. |

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| | | | | | 08-10UB30S014 08-10UB30S015 08-10UB30S016 08-10UB30S019 08-10UB30S020 08-10UB30S021 08-10UB30S023 However, the valve and actuator list specifies valves and actuators outside the highlighted lines that must be replaced. Should we price for the valves and actuators within the highlighted lines of the PIDs or as per the valve and actuator list? | |
| 11. | 375-LET-AABZ31-SG0001-2 Rev 4 | Qualitative technical criteria 5.5 | 14 | The tenderer provides datasheets for flow meter-open channel | Please clarify why this required as there are no "open channel" flowmeters in the Instrument list (Appendix D4 of Technical Specification) | The tenderer should note that line 7 and 8 in appendix D4 are open channel flow meters (10UA11F005/6). |
| 12. | 375-LET-AABZ31-SG0001-2 Rev 4 | Qualitative technical criteria 5.9 | 14 | The tenderer provides datasheets for manifold | Please clarify the exact requirement and specifications | <p>The tenderer provides the datasheet for the 5-way manifold intended for use on differential flow and pressure applications. Two-way manifolds for pressure transmitters, switches and gauges. Refer to section 9.14 in the technical specification.</p> <p>All analog instrument signals shall range between 4-20mA and the analog devices shall have a digital graphical display. The Contractor is required to use loop powered instrumentation (24V DC) where possible. Pressure transmitters, pressure switches and pressure gauges are equipped with 2-valve manifolds. Every instrument shall be specified to function in the</p> |

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| | | | | | | <p>complete process range it will be used in. The range should preferably match the current process ranges where possible.</p> <p>Every instrument shall be specified to function in the process medium it will be used in. Unless other criteria are applicable all instrumentation shall be rated for ingress protection of IP65 or better according to SANS 60529.</p> <p>Differential pressure transmitters are equipped with 5-valve manifolds, for gas applications they are equipped with 3-valve manifolds with two test connectors.</p> |

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