

**SCHEDULE OF SPECIFICATION****SPECIFICATION FOR REPAIR WORKS, REPLACEMENT OF PUMP PARTS, REASSEMBLE FOR FOUR (4) UNITS OF ABS ELECTRICAL SUBMERSIBLE PUMP AND ONE (1) NO OF JOCKEY PUMP AND RELATED WORKS AT NIBONG TEBAL PUMP HOUSE, SEBERANG PERAI SELATAN, P.PINANG.****COMPLIANCE WITH SPECIFICATION**

The tenderer must indicate whether his offer complies with the specification by answering “YES” or “NO” against the respective item of specification as set out below. If the answer is “NO” comments must be given.

NO	SPECIFICATION	COMPLIANCE
<b>1.0</b>	<p><b><u>GENERAL</u></b></p> <p>Successful tenderer shall provide labour, materials, transportation, equipment and other facility for the following works :-</p> <p>1.1 The tender shall consists of dissembled to repair, repair work and replacement of parts for Four (4) units of ABS VUP 1001 M1320 / 12-82 (130 KW) and One (1) unit of ABS AFL 0701-M220/8 (22KW) electrical submersible pump and related equipment at Nibong Tebal Pump House , Seberang Perai Selatan.</p> <p>1.2 The pump sets, after completed repair works, replacements of parts &amp; reassembled works shall be tested according to manufacturer test procedure (ABS VUP Electrical Submersible Pump) and witnessed by S.O before installation.</p> <p>1.3 The test shall include but not limited to ‘winding insulation test’, ‘continuity test’, leakage pressure test and functional test of the pumps.</p>	
<b>2.0</b>	<p><b><u>SCOPE OF WORK</u></b></p> <p>2.1 The successful tenderer shall provide the transportation and lifting facilities for dismantling of the pump sets from site to the workshop for dissembling and repair work of the pumps.</p> <p>2.2 To dismantle and reassembled of new parts of the pumps, contractor are required to use proper manufacturer recommended tools and workshop manual.</p> <p>2.3 The contractor shall provide replacement parts such as O-ring kit, Upper Bearing set, Lower Bearing Set, Mechanical Seal set and enough quantity and Grade as per pump service manual requirement for lubricant to make good of the serviced pump sets.</p> <p>2.4 All the pumps motor coil winding shall be re-varnish, warm dry (through hot filament or oven baked ) to obtained a good windings insulation with high insulation reading.</p> <p>2.5 The tenderer shall produce Two (2) sets of photograph of work done, defect item and newly replaced item assembled.</p> <p>2.6 The tenderer shall have to replace and make good of all the protection sensor for oil chamber, motor housing and pump terminal box.</p>	

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	<p>2.7 To rectify and make good of the pump power and control cable including cable termination as per manufacturer specification. <b>The electrical connection of the submersible pump may only be carry out by qualified person.</b></p> <p><b>2.8 Contractor shall take into consideration that two (2) units of still in operation / workable pumps are to be left behind for operation while the rest undergoes repair work.</b></p> <p>2.9 To rectify and replaced item as in Dokumen D (Ringkasan Sebutharga) as to ensure that the pump will function as per manufacturer pump specification. The replacement of items must be verified and obtain S.O approval before being installed.</p> <p>2.10 The pump after repaired and painted with anti-corrosion paint shall be installed back at the Nibong Tebal Pump House.</p> <p>2.11 Testing and commissioning of the repaired pump sets operation at site.</p>	
<p><b>3.0</b></p>	<p><u>REPLACEMENTS OF PUMPS PARTS.</u></p> <p>3.1 All item mentioned in clause 2.0 shall be checked if it is functioning and to be fixed to its original position.</p> <p>3.2 All repair works must strictly follows the manufacturer workshop manual.</p> <p>3.3 Special tools is to be used for certain parts as stated in the workshop manual so as not to damage pump components.</p> <p>3.4 For the repairing work, S.O must be informed earlier before the repair work can commenced.</p> <p>3.5 The S.O has the right to check on the parts at any time to make sure the parts are genuine and to witnessed the repair work.</p> <p>3.6 Grease and oil used on the pump System shall follow as stated in pump manual.</p> <p>3.7 Care must be observed during fixing of the pump parts. Any damages to other parts shall be and bound by the contractor with full responsibility.</p> <p>3.8 All the pump entry power and control cable seal should be changed.</p> <p>3.9 All the necessary electric protective devices such as earthing, neutral, ELCB, etc should be checked and must comply to the IEE regulation by the qualified person.</p> <p>3.10 The mains supply to the control panel must be correctly identified using phase-rotation checking device. All the VUP pump standard monitoring devices such as DI-electrode for seal monitoring function shall be integrate and connect into the control panel.</p> <p>3.11 After complete assembling the pumps, leakage and insulation test MUST BE tested in the presence of the S.O. Report has to be provided.</p>	

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4.0	<p><b><u>INSTALLATION</u></b></p> <p>4.1 The assembled and tested pump sets must be delivered to Nibong Tebal Pumping Station.</p> <p>4.2 The pump should be installed to its original pump column with proper pump sitting in its column.</p> <p>4.3 Continuity and insulation checking on the pump motor winding should be carried out in the presence of S.O before it is being lowered into the pump column.</p> <p>4.4 All power and control cables must be connected properly after pump rotation test automation mode test has been done.</p> <p>4.5 All installation works must strictly follow the ABS Pump workshop manual before testing and commissioning can be done.</p>	
5.0	<p><b><u>TESTING AND COMMISSIONING</u></b></p> <p>5.1 The pump has to be insulation tested.</p> <p>5.2 The pump has to be leakage tested.</p> <p>5.3 Rotation test of the pump and automatic operation to be carried out upon completely repaired rake system and installation of the pump in its column.</p> <p>5.4 Pre-commissioning to be done for all Pump sets by contractor until satisfactory.</p> <p>5.5 Final testing and commissioning to be carried out and witnessed by S.O.</p>	

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(Tandatangan dan Cop Kontraktor)

Nama Syarikat: .....

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No. K.P:.....

No. Telefon .....