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General materials department announces for public tender No. 1/57/2011 – 2012 for the supply of five aircraft fuelling vehicles according to the following conditions :

- 1 – Tenders must be submitted by two closed envelopes system .
  - 2 – Tender documents can be obtained upon payment of non refundable for 5000 L.E. plus 10% sales tax (500 L.E.) at the cash department in the first floor at the above mentioned address from 9:00 am to 1:00 pm .
  - 3 – The tender opening session will be at 12:00 pm on 23/1/2012 at the above mentioned address in room number 623 at the six floor, any tender will be not considered after the due date .
  - 4 – Tenders must be offer provisional guarantee 15,000 Dollars (cash, acceptance check or letter of guarantee valid for at least 120 days from the opening date) .
  - 5 – In case of the tender acceptance the provisional guarantee must be exceeded to 5% of the tender value .
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*Technical specifications for 5 High pressure Hydrant Dispensers with elevating platform*

بند رقم ITEM. No.	الكمية QUA .	الوحدة UNIT	البيان DESCRIPTION
<b>I</b>		<b>Unit</b>	<p><b>High pressure Hydrant Dispenser with elevating platform and flow performance is up to 2400 lit/min. Make from one of the following</b></p> <p><b>* Chassis:</b></p> <p>*** Model: Mercedes Benz Made in Germany.</p> <p>- Chassis Cab. (Shouldn't have windows in the rear cab wall).</p> <p>.G.V.W 5990 Kg (Min.), 30 km/h limited speed on air field, Permitted Real axle 4300 kg (Min.), permitted front axle 2300 kg (Min.) the turning circle as short as possible and wheel base 3.7m.</p> <p>* Engine: Mercedes Benz-4stroke. Direct injection, Naturally Aspirated, water cooled diesel Engine (Euro 3). (In Line)</p> <p>*4 cylinders developing [136 HP (100 kw) at 2200 RPM] (Min.).</p> <p>*(Exhaust Manifold, radiator and thermostat suitable for stationary engine operation in a tropical climate).</p> <p>*** Gearbox 5speeds manual fully synchronized.</p> <p>*Paint according to Misr Pet. Standard shell yellow No 28 for cab equipment and pipe work – shell Red No. 11 for mud, chassis and wheels.</p> <p>* A top speed adjustable limiter, set at 30 k/h – 40 kph. When in air port use and switched off when moving on public road. The switching device is to be key locked.</p> <p>*Drive shaft shield bars with drop down hoops to be fitted so As to protect the fuelling equipment should the universal joints fail.</p> <p>***Tires: Michelin 205 /75R16(OR as Chassis Manufacture) antistatic on road Pattern including spare no carrier.</p> <p><b>*Standard features to be included(as Chassis Manufacture).</b></p> <p>B. 90 omission of load dependent brake.</p> <p>C. 42 stabilizers, rear axle, under frame.</p> <p>C. 49 stabilizers, front axle, rain forced.</p> <p>C. 50 Power steering (standard).</p>

			<p>E- 24 Tropical batteries 2×12V / 88 Ah.  E- 30 Battery main switch, single pole.  J-10 Deletion of tachnograph, speedometer km/h.  M-11 RQV. Governor – fixed speed.  M-42 Alternator 28 V /55 A.  M-50 Tropical radiator, higher efficiency degree I.  M-80 Sealing of injection pump.  N. 14 P.T.O with interlock.  N. 80 Locking mechanism for P.T.O.  Q. 80 Parabolic springs, front, reinforced degree I.  Q. 83 Parabolic springs, rear, reinforced degree I.  R. 16 Wheel rims 6.00 G 16  S. 68 Automatic safety belt, driver.  S. 69 Automatic safety belt, passenger.  X. 36 Fuse box Plate in English and Arabic.  X. 42 Plates and booklets in English and Arabic.  Y. 20 Tools for Export.  S. 23 Dual passenger seat instead of single one.</p>
2			<p><b><u>*Dispensing equipment .</u></b>  <b><u>Dimensions:</u></b>  Width: Not to exceed 2.8 m.  Length: to be as short as practicable.  Height: Not to exceed 2.5 m.</p>
	2.1		
	2.2		<p><b><u>Performance:</u></b>  Inlet pressure at hydrant Pit valve up to 8.6 bar (125 PSI) app.  (A) Approx – 2400 L/min through the deck hoses (two deck hoses).  (B) Approx – 1150 L/min through the hose reel (one reel hose).</p>
2.3			<p><b><u>*Admissible pressure (Testing and records)</u></b>  All components, pipe work and hoses etc. are suitableFor a continuous working pressure of 185 PSI and capable of short durationSurge pressure up to 235 PSL..    The unit is subjected to static pressure 300 PSI (Test pressure), pressure loss during testing for (5-14 PSI) 1 bar, Hydrant dispenser inlet pressure 80-PSI Inlet system.    - Testing may be performed before or after finish painting.  - On completion hydrostatic pressures of 20 bar (as applicable) are to be applied to the fuelling circuits.  These tests shall be repeated in the presence of the purchaser's representative and inspector.</p>
3			<p><b><u>*Major components and assemblies:</u></b></p>
3.1	1	Unit	<p><b><u>*Meter system:</u></b>  Bulk meter  Make: Avery Hardoll  Type: B.M 350 Max flow 2800 L/Min and calibrated in Deciliters.</p>
	3.1.1		<p>The meter register must be fitted with a (non- resettable) totalizer and a large numeral counter Measuring in decaliters.</p>
	3.1.2		<p>The meter should be capable of occasional over speeding by 25% without damage or losing set calibration.</p>

3.1.3		Meter must be able to operate / count under reverse flow and should be fitted with a rate of flow indicator.
3.1.4		Meter calibrated in deciliters and max flow rate output 2800 Lit/min app.
3.1.5		A calibration / test certificate for the meter should be available.
3.2		<b><u>*Reel hose system:</u></b>
3.2.1	1	Under wing pressure fuelling distribution piece (venturi)
3.2.2	1	Ball valve 3" make Argus with st. steel ball with by – pass assembly 1/2 " consisting of
3.2.3	1	Butterfly valve 3" (enabling pressure test).
3.2.4	1	Hose reel make fluid transfer hub or equivalent from Titan or Alfons Haar ., single volute, capacity 30m x 2 1/2 NB hose outlet thread BSPPM, hose reel should be hydraulically operated from P.T.O
3.2.5	1	Delivery hose 30m x 2 1/2" N.B BSPPF inlet, BSPPM outlet according to API 1529 (1989) type C Grade II (BS 3158 /85 type C Group II) Spannfix type, Make Elaflex HD. <u>OR</u> equivalent from Hewitt or GoodYear
3.2.6	1	Fuelling nozzle, with 45-PSI regulator, with dry break quick disconnect in lieu of standard type, 100-mesh screen and 2 1/2" BSPPE inlet threads. Make: Carter <u>OR</u> Avery Hardoll Type: 60427 CEF4X7K <u>OR</u> HUMY 3204/B50/C15/YM For Avery Hardoll
3.2.7	1	Bayonet stowage / inter lock assembly for the reel delivery coupling pneumatic switch type, fluid transfer DCA – 10216.
3.2.8	1	Test pint
3.2.9	1	Swivel Joint which need grease for lubrication are not permitted in addition, the design of the swivels should be such that seals are easily accessible and can be replaced without the need to either remove the reel or engage in major dis –assembly work. Hose must be easy to pull off the reel under all conditions but adjustable devices to prevent excessive over run, when pulling stops, should be provided if necessary.  Hose reel must be suitable for testing hose to 20 bars while still connected. Hose clamps at the reel end must be positioned so that projections do not bear upon the next hose layer and cause deformation. chain drive or hydraulic drive is required to drive the reels and must be self adjusting or by same mechanical means of adjustment.
3.3		<b><u>*Deck hoses system:</u></b>
3.3.1	1	Under wing pressure fuelling distribution piece (venturi)
3.3.2	1	Swivel joint 4" inches make Alfons Haar OR Titan OR FT.
3.3.3	1	Hose connection 4" inch NB according to API 1529 (1989) type C Grade II spannfix type, make Elaflex HD. <u>OR</u> equivalent from Hewitt or GoodYear
3.3.4	1	Ball valve 4" make Argus <u>OR</u> equivalent from BITTER OR ZULAUF RENU, with stainless steel ball and with by- pass assembly 1/2" consisting of ball valve and non-return valve.
3.3.5	2	Ball valve 3" make Argus <u>OR</u> equivalent from BITTER OR ZULAUF RENU, with stainless steel ball and with by- pass assembly 1/2" consisting of ball valve and non-return valve.
3.3.6	2	Swivel joints 3" inch for deck hoses make Alfons haar OR Titan OR FT.
3.3.7	2	Delivery hose 2 1/2" inch NB according to API 1529 (1989) type Grade II, Make Elaflex HD. <u>OR</u> equivalent from Hewitt or GoodYear The length of deck hoses so that the platform can be safely lowered when the hoses are connected to a point 5.88m above ground level.

3.3.8	2	Fuelling nozzle, with 45PSI regulator, with dry break quick disconnect in lieu of standard type, 100-mesh screen and 2 1/2" BSPPE inlet threads. Make: Carter <u>OR</u> Avery Hardoll
3.3.9	2	Type: 60427 CEF4X7K <u>OR</u> HUMY 3204/B50/C15/YM For Avery Hardoll Bayonet stowage / interlock assembly for the reel delivery coupling pneumatic switch type, fluid transfer.
3.3.10	2	Test point. (Both hoses inlets to be on the plat form side opposite to the Access steps; delivery couplings to be stowed on the Access side; front. Hoses should lie on the platform floor with undue bending or tendency to kink).
3.4	1	<u>*Hydraulic elevating platform:</u> The platform and reel hose should be hydraulically operated from power – takeoff and it can hydraulically be moved up and down by means of a control mounted on the platform and should be is not less than 25 sec it must be adjustable to any height within the range specified below and its position must be firm at all stages, adjustable plat form elevating to 4.0 m minimum "ground to ground" A double scissor type, displacement rams, controls per specification, safety rails, toe board, self closing gate, extending access ladder, perforated floor grating design to allow for near stowage of hose to minimize risk of personnel accident.  - <u>The platform have to meet the spacification of "AIRBUS 380 "</u> . (The plat form should be installed behind the driver cab). An emergency ladder shall to be fitted to allow safe access at any kind of emergency and any height.
3.4.1	4	A 'lock-on' platform stop connected to sensitive lever arm, which will respond in the event of contact with an aircraft wing.(one at the top of each corner)
3.4.2	1	<u>*Floor dimensions :</u> Width: 2300 mm, Depth: 800 mm. Safety rail minimum 1000 mm high app. Max: height of platform: 4000 mm above ground level. "ground to ground" Min: height of platform: 1200 mm above ground level "ground to ground" The plat form should be equipped with: -
3.4.3	1	An intermittent available alarm should be installed set to operate when the plat form is descending. This shall be of pneumatic or electric operation.
3.4.4	1	Oil tank with filter and dip stick.
3.4.5	1	Safety by – pass valve.
3.4.6	1	Hydraulic pump operated from P.T.O.
3.4.7	1	Control lever: one push button station.
3.4.8	1	Control valve for hose reel operation.
3.4.9	1	Control system for the elevating plat form including emergency valve in the system and a safety device at the hydraulic cylinders to avoid fast lowering in case of failure.
3.4.10	1	Safety ladder.
3.5	1	<u>*Intake system (inlet coupler and hose).</u>
3.5.1	1	Inlet coupler, 4" inch API 1584(3 <sup>th</sup> ), dead man, pressure control Make: carter. Type: 60700 – 1 NDGW. Or Make Avery Hardoll., Type:CCMY 8500 M2/R2/BSP + Carriage Carter 60532 A or Avery Hardoll CCMY 8530 with API Flange connection, including pneumatic control, pressure control, Dust cap and collar lift. - The inlet coupler should be stowed on the same side as the operating control station, with dispenser entry on the opposite side (normally, the right)
3.5.2.	1	Inlet hose 10 m x 4" inch NB. According to API 1529 /1989

3.5.3	8	<p>Type: C Grade 2          Make: ELaflex VHD <u>OR</u> equivalent from Hewitt or GoodYear, Type: Spannfix.</p> <p>One end flanged BSPPF outlet and one end Fitted with 4: inch BSPPM inlet suitable to fit carter intake coupler 4'' inch.</p> <p>Aluminum hose brackets with rollers, lifting handles and suspending eyes, these brackets are equally spaced over the length of the inlet hose.</p> <p>3.5.4 1 Inlet secondary strainer easily removable, strainer basket (60 mesh) Gauze mesh, strainer fitted before inlet ball valve 4'' inch of ground hose (inlet hose).</p> <p>3.5.5 1 Inlet heavy duty swivel joint bend 4'' inch make: Haar OR Titan OR FT.</p> <p>3.5.6 1 Intake pressure gauge with test connection.</p> <p>3.5.7 1 Inlet shut – off valve 4'' inch (Butter fly valve)</p> <p>For pressure test of the inlet hose.          - The inlet hose should be fitted with heavy-duty caster wheels mounted on metal sleeves (2 wheels / sleeve).</p> <p>The hose stowage points should be fluid transfer type: (easy lift) / self locking lever type and designed such that The hose remains secured on uneven road surfaces.</p> <p>Hydraulically operated lifting device with illumination point at control panel for intake hose and intake coupler for easy operation/handling(A power assisted lifting device to be used to stow the input line and coupler . The lifting device in the event of power source failure to incorporate an emergency means of lifting' to allow vehicle to be moved to temporary location. The coupler stowage''receptacle' with interlock point to be made to provide protection from dust and water ingress.</p>
3.6		<p><u>*Filter monitor:</u></p> <p>Vessel &amp; elements shall be used comply with API 1583 ( last 4<sup>th</sup> edition) requirements and are fitted with an inter lock system so that the cover can not be closed unless all elements are installed.</p> <p>3.6.1 1 IP Filter monitor with cover interlock, ASME V III DV.1          Make: Warner Lewis (type: HF-1630 CDF/30) <u>OR</u></p> <p>Equivalent from Facet .          The filter monitor cover should have a swing bolted cover.</p>

3.6.2	2	It should have 3/4" inch low point / sample drain lines with ball type isolating valves both at the vessel and at the sampling out let point on both clean and dirty sides of the filter element mounting / division plate.
3.6.3	1	Differential pressure gauge, direct reading, scale 0-30 PSI and 0-2 bar, piston type, with sense line isolating and 3 way test valves. Make: Gammon (type: GTP – 534 (BSPP threads).
3.6.4	1	An automatic air eliminators is fitted on the highest point of the filter monitor.
3.6.5	1	The end cover is to be fitted with a hinge and swing bolts.
3.6.6	1	Visible flow (sho flo) indicator. - A set of filter elements for flow testing shall be provided by the constructor. - Proof is to be furnished that the filter monitor has been hydrostatically tested to the design test pressure.
3.7		<u><b>Pneumatic system:</b></u> The air supply is delivered from the chassis air supply system (P.T.O). Pneumatic system with compressor, pressure limiter, gauge, filter, air vessel and an external charging point. The air compressor linked to the engine with governor, Check valve and it linked to the interlock system during operation.
3.8		<u><b>*Brake inter lock system (interlock – override switch – lamps alarm)</b></u> The system must prevent driving when the three fuelling nozzles are not correctly stowed on the hook supports or receptacles. - The inlet coupler is not correctly stowed and clips are not in positions. - The elevating platform is not in the lowest position, air pressure is too low and when compressor operation. An override switch is installed in the driver's cab, easily accessible from the driver's seat, with warning flashlight when interlock is operating. The method is to have separate lamps for each of these indications and interlock override switch must be clearly labeled.
3.9		<u><b>Deadman control and pressure regulation:</b></u> Pneumatically operated acting on the intake coupler, including: - Pneumatic control system.
3.9.1	1	Hose reel spring rewinded, with 30-meter twin hose.
3.9.2	1	Deadman handle.
3.9.3	1	Override switch.
3.9.4	1	Venturi pipe with glycerin filled gauge for reel hose.
3.9.5	1	Venturi pipe with glycerin filled gauge for deck hoses.
3.9.6	1	Sense lines system from the venturis to the intake coupler.
3.9.7	1	<u>Note : A lockable dead man override, manually operated should be provided in the instrument panel. (The dead man operation should be either Air or remote).</u>
3.9.8	1	Dead man timer is required.
3.10		<u><b>Grounding system:</b></u>
3.10.1	2	Manual rewind reel with 30 meters of bonding cable and substantial clip are to be fitted near the operating station, but away from the platform. Another reel should be installed on the opposite side of Dust cap and collar lift. The vehicle in a convenient location. - Characteristics of the reel and its operation are important. Materials should be corrosion resistant. It must not over-run-on reeling out when the cable is no longer being pulled it must not be stiff to rewind. - The cable is to be very flexible, non corrodible, resistant to kink damage and have substantial tensile strength. it must be covered in a suitable UV light resistant plastic coating and have a surface colure (yellow)
3.11		<u><b>Fuelling control stand (control operating station)</b></u> The panel should be located on the left hand side of the dispenser. The following control, gauges etc. must be located near the station.
3.11.1	1	Meter counter
3.11.2	1	Rate of flow indicator.
3.11.3	1	Inlet pressure gauge.
3.11.4	1	Venturi pressure gauge.
3.11.5	1	Differential pressure gauge.
3.11.6	1	Air reference pressure gauge.
3.11.7	1	Air pressure controlled valve for intake coupler.
3.11.8	5	Test points for hoses suction pressure test (20bar) between ball valve and hoses.

3.11.9	1	<p>Hydraulic pressure gauge.  Test connections of gauges and sample connections.  The gauges and controls are conveniently grouped and adequately labeled in English language.  Quick disconnect fittings (male and female half) with isolating valves to permit the inlet, sense point, and air pressure gauges to be tested in site.  The following should be grouped at the control station.  - Sho-Flo air eliminator indicator (with indicator ball).  - Bulk meter with mechanical register.  - Delivery line isolation ball valves, lever operated  Suitable for 20 bar test pressure.  - Pneumatic air regulator for pressure control, with rapid response and high capacity for self-reliving of excess downstream pressure.  - Gammon type differential pressure gauge with L.P Side test drain point and isolating valves.  - Gauges to show the pressure for dispenser inlet, fuel sense to the SPCV, air reservoir, control air reference and hydraulic system.  - All fuel and air reference pressure gauges should have a minimum 100 mm dial face and be glycerin felted to BS 1780 standard.  - A dead man handle Fitted with hose reel spring re-winded with locking stop and 15 meters of hose.  - Quick disconnect fittings (male and Female halves) with isolating valves to permit the inlet, sense point and air pressure gauges to be tested in site, spring return, lever operated de pressurization valve.  - Manual isolating valve for the automatic depressurizing system.</p>
3.12		<p><b><i>*Electrical Equipment .</i></b>  In addition to the standard vehicle light the following lights should be fitted, sufficient explosion proof illumination of all control instruments.</p>
3.12.1	2	Airfield warning lights, explosion proof on top at the plat form (red light).
3.12.2	1	Air field warning light, explosion proof on top of drivers cab (red becon type).
3.12.3	4	Clearance lights two per side.
3.12.4	1	Meter illumination light, explosion proof.
3.12.5	1	Inter lock warning light inside the driver's cab
3.12.6	2	Back-up lights.
3.12.7	2	Stop and turn lights.
3.12.8	1	Panel illumination light (explosion proof). All hoses and electrical cables should be in different coloures.
3.13	1	<b><i>*Dump tank and depressurization system .</i></b>



3.13.1		Dump tank of aluminum, capacity 200 lit, including level gauge, vent valve, drain pipe with two shut – off valves 3/4" covered stub with strainer for samples and hand hole, blind flanged for cleaning. (An automatic drain pump must be fitted and to be linked to the high level sensor of the dump tank and discharge to the inlet of the filter) .
3.13.2	1	Automatic depressurization system with pneumatically operated shut. Off valve, controlled by the inter lock system, thermal relief valve and by pass lines to the deck hoses and reel hose shut off valves including non-return. Valve.
3.13.3	1	<p><u>Dump Tank Pump</u>  <u>The pump is with by pass valve incorporated at 10 bar , it is drive by a hydraulic motor it is controlled by the deadman and by a high level sensor in the dump tank, when level inside dump tank reach high level sensor and the deadman in actuated, the pump start to work and make injections before the microfilter,</u>  <u>when level in dump tank reach to low level sensor, then pump stop in order not to make air suction.</u>  <u>if there is any problem and the level in dump tank reach to a second high high level,then deadman stop operation in order to avoid spillage.</u>  <u>therefore there are 3 sensors, low level, high level and high high level, and work in two ways automatic way controlled by the sensors</u>  <u>and manual way commanded by the operator if he wish to start pumping before the level of the dump tank has reached high level sensor.</u></p>
3.14		<p><u>*Other items (Auxiliary equipment)</u>  The following miscellaneous equipment is to be fitted.</p>
3.14.1	2	Mudguards with supports and flaps for the rear wheels, exhaust pipe in front of the front axle with spark arrestor, type EPOK, exhaust right hand side.
3.14.2	2	Buckets type fire extinguisher with holders should be provided, one at each side of the vehicle, suitable for 12 kg, dry powder type(B&C).
3.14.3	1	A 2 kg Co2 fire extinguisher should be fixed in the cab type(B&C).
3.14.4	1	Spare wheel and tool kits for each unit.
3.14.5	2	Bonding connections should be installed at the product recovery (dump) tank and at the sample / dram panel.
3.14.6	1	Weatherproof lockable stowage for two 5 liters containers and miscellaneous sampling equipment should be provided.
3.14.7		Typical dimensions should be 600 mm long x 400 mm high x 250 mm deep. Drain holes should also be provided.
3.14.8	1	<p>VCFS fuel sampler shell water detector valve, back lighting, (hand pump return to recovery tank)  Make: fluid transfer / Aljac  <u>* note:</u>  The system must be equipped by hydrometer and thermometer to measure (weight or density) of fuel and temperature while fuelling the aircraft.</p>
3.15		<p><u>General requirements:</u>  -Stainless steel pipes used, then it should also be seamless.  -The St. Steel pipe material according to ASTM A.312, Grade TP. 304L, schedule 5S (0.083" inch thick) forged flanges to ASTM A.182, Grade F. 304L wrought fittings to ASTM A. 304, Grade WP. 304L.  - Victaulic Joints and flexible couplings are not permitted.  - Flanges according to DIN standard TW pattern or according to ANSI B 16. 5 class 150 pattern dimensions.  * Swivel Joints are to be self lubricating (All to be made from Haar OR Titan OR FT )  - All pipe work is to be fully drainable.  - Plugged, parallel threaded connection ports should be provided on pipe work in accessible positions to permit hose testing to be carried out on the vehicle.  - All hoses should be capable of being isolated for routine pressure test to 20 bars, without the need to remove them from the vehicle.  - All fuel sample, drain, sense and gauge lines should be stainless steel.</p>

		<ul style="list-style-type: none"> <li>- Valves on drain/Sample lines are to be ball type, terminating in kamlok type couplings with quick release sealing caps secured by retaining wire or chains.</li> <li>- Certain materials should not be used no copper, copper alloys with more than 35% copper, zinc or cadmium should be in contact with the fuel.</li> <li>- All valves, couplings, and swivels etc. In contact with the fuel shall be non – ferrous.</li>   <li>- All components, piping and coupling threads are to be BSPP.</li> <li>-All seals, such as valve seals, washers and O-ring etc. Which come into contact with the fuel passing through the dispenser are compatible with aviation fuels.</li>   <li>- Proper drain connections 3/4" inch are fitted at all low points in the system and on all components which would not other wise drain completely.</li> <li>- All pneumatic lines are clearly labeled and made of pressure / fuel / ultraviolet resistant plastic tube.</li> <li>- All fuelling hoses are in accordance with the specification API 1529 / 89 type C grade 2.</li> <li>- Hoses, reel, hydraulic pump, hydraulic motor, filter and meter are readily removable.</li>   <li>- All components are located to provide un-hampered access to controls for routine maintenance and lubrication.</li> </ul>
3.16	2	<p><u>Instruction manuals :</u></p> <ul style="list-style-type: none"> <li>- General description.</li> <li>- A series of clear photographs of each individual item</li> <li>- Nominal duty and performance data</li> <li>- Operating instructions.</li> <li>- Maintenance instructions, workshop manual for parts books and C.D.</li> <li>- Adjustment instructions.</li> <li>- Trouble shooting instruction.</li> <li>- Flow circuit, pneumatic diagram, and Hydraulic diagram.</li> <li>- Electric diagram, commissioning instructions.</li> <li>- Spare parts list per unit for 2 and 5 years operations.</li> </ul> <p><u>*Miscellaneous Equipment and Requirements:</u></p>
3.17		
3.17.1	1	<ul style="list-style-type: none"> <li>• Additional dead man system on platform (platform mounted dead man control).</li> </ul>
3.17.2	1	<ul style="list-style-type: none"> <li>• Additional venturi pressure gauge on plat form.</li> </ul>
3.17.3	1	<ul style="list-style-type: none"> <li>• Dump tank high-level sensor / light / warning alarm.</li> </ul>
3.17.4	1	<ul style="list-style-type: none"> <li>• Reverse alarm.</li> </ul>
3.17.5	3	<ul style="list-style-type: none"> <li>• Remote, external emergency engine stop button two left and right of the vehicle in addition to that one on the platform.</li> </ul>
3.17.6	1	<ul style="list-style-type: none"> <li>• Remote external battery isolation button.</li> </ul>
3.17.7	1	<ul style="list-style-type: none"> <li>• Draw bar coupling (tow hook)</li> </ul>

3.17.8	1	• External battery connection with male and Female.
3.17.9	1	• Master gauge for each point.
3.17.10	1	• A mechanical hand operated fluid transfer (EASI Lift) for hydrant dispenser intake hose and must be linked to the interlock system.
3.17.11	2	• Millipore sampling points up stream and down stream of filter monitor ended by ball valve and mall quick disconnect of (GAMMON) GTP 1172.
3.17.12	3	• Fuelling nozzle Millipore sample fitting (Gammon).
3.17.13	1	• One-way restrictor in pneumatic line to brake interlock actuator to slow down action while vehicle is moving over very rough roads
3.17.14	1	• Intake hose must be equipped with intake Boom assembly (two swivel 4" inch and Room nine) to give the total length of the intake hose 17-meter approx without using
3.17.14	1	Additional suitable box with 12 universal standered wieght pillows "sorbernt" ( for leaks) size 18"×18" <u>OR</u> 19"×17".