

## EXPRESSION OF INTEREST

Sub:- PROPOSED QRS/TDS OF QRs/TDs of "High Powered Specialized Utility Vehicle for Mountainous Region"

This is for general information of the firms/manufacturer of vehicles that under mentioned QRs/TDs have been framed by Board of Officers of ITBP as per Appendix "A & B". All the interested vendors/ firms are requested to go through the same and give their suggestions, if any, by 30.09.2017 on e-mail ID: diglndc@itbp.gov.in

2. A hard copy of suggestions may also be sent to the Dy. Inspector General, SHQ(L&C), ITB Police, MHA/ Govt of India, Chhawla Camp, Najafgarh Road New Delhi 110017 (Fax No. 011-25317066).


  
उप महानिरीक्षक(संभरण) DIG (Prov)


**FINAL DRAFT QRs / SPECIFICATIONS OF 'HIGH POWERED SPECIALIZED UTILITY VEHICLE FOR MOUNTAINOUS REGION'**

S.N	PARAMETERS	SPECIFICATIONS	REQUIREMENTS	COMMENTS OF THE FIRM
1	<u>ENGINE</u>	Diesel engine, CRDI, Turbo charged, intercooler, Water cooled, EURO/ BS IV or Higher (Suitable to deliver the rated output). Capacity of engine should be min.3 Ltrs (3000 CC).	Engine should be of min.BS /EURO IV variant with capacity minimum 3Ltrs (3000 CC), fitted with Turbo charger, Intercooler and liquid type cooling system. Should be capable of delivering desired horse power.	
2	<u>Horse power</u>	Not less than 200 hp	Engine should be capable of delivering desired horse power which is not less than 200 HP.	
3	<u>Torque</u>	Not less than 350 Nm	At the rated horse power the vehicle to produce Torque not less than 350 Nm	
4	<u>Kerb weight</u>	Not more than 3750 kgs.(Including weight of Bracket for radio communication set, Roof hatch, Self recovery winch, tow hooks).	The kerb weight of the vehicle should not be more than 3750 Kgs.	
5	<u>Payload</u>	Min. 1000 Kgs	Should accommodate 8 - 10 soldiers (X100) with their luggage.	

  
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6	<u>Gradeability</u>	Min. 30 Deg (Fully Laden) with approach angle not less than 25 Deg and Departure angle 18 Deg.	Vehicle should be capable of negotiating the 30 deg. Slope (fully laden) easily.
7	<u>Side Slope Capability</u>	Min. 17 Deg	Vehicle should be capable of negotiating the side slope of min.17 Deg. Easily.
8	<u>Turning Radius</u>	Less than 7.5 mtrs	Should be less than 7.5 mtrs to negotiate the sharp corners.
9	<u>WEIGHT</u>	Not more than 4800 kgs	The weight (Kerb weight + Payload) should not be more than 4800 kgs.
10	<u>Seating Capacity</u>	Minimum 08 - 10 persons	The vehicle should accommodate at least 08 - 10 soldiers (Including driver) with weapons comfortably.
11	<u>Fordability</u>	Min 500 mm	The vehicle should have fordability of Min. 500 mm to negotiate the water level.
12	<u>Fuel Tank Capacity</u>	Min. 60 Ltrs. (with jerry cans 100 ltrs)	Fuel tank capacity to be min.60 ltrs. (with jerry cans 100 ltrs).
13	<u>POWER TRANSMISSION</u>	Automatic or Manual Transmission with min.04 forward and one reverse gears. Drive should be selective both	Should be either automatic or Manual transmission with min 04 forward and one reverse gears and the selection drive i.e 4X2

  
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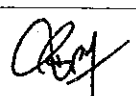

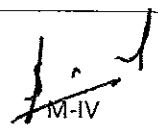





  
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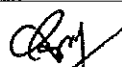
16	<u>Steering</u>	Right hand drive with Power steering.	Should be right hand driven and easily steerable on all kind of terrains.
17	<u>Body Configuration</u>	Body of vehicle should be of Hard top shell, all weather resistant viz. Hot & Cold temperatures and Severe rain. With sufficient reinforcement under the body. Should have 03 door/05 door concept	The body should be strong and sturdy with hard top to withstand harsh weather conditions of hot & cold temperatures. The body should have 03/05 doors concept depending on the seating arrangements, with proper windows for visibility on the doors.
18	<u>Power To Weight Ratio</u>	More than 25 kW/Ton	Should be more than 25 kW/Ton
19	<u>Range of Operation</u>	400 Kms on Highways 300 Kms on Hilly terrain	Vehicle should at least cover 400 Kms on highways and 300 Kms on Hilly terrain.
20	<u>Brake System</u>	<u>Front &amp; Rear :</u> Hydraulic / Air with dual circuit with Disc on front and Disc/Drum on rear wheels. Anti Lock Braking System (ABS) should be provided.  Parking brake on rear/ front.	The vehicle should have dual circuit hydraulic/air brake system with Disc on front and Disc/Drum on rear wheels. Should stop at nearest possible distance.  Parking brake should be effective enough to hold the fully laden vehicle at 30 deg. slope.

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21	<u>Heating/Cooling of passenger compartment</u>	Heating arrangement should be provided with either HVAC system or equivalent arrangement to be provided. <b>Provision for Demisting and Defrosting to be provided.</b>	The system should provide atleast $22 \pm 5^\circ$ when the ambient temperature falls below $(-) 20^\circ$ . Demisting and Defrosting should be quick enough to make the visibility clear.
22	<u>Vehicle operating Temperatures</u>	Vehicle to operate in the range of min. $(-) 20^\circ$ and below to max. $(+) 45^\circ$ . Cold starting aid to be as a standard fitment.  Altitude range is 15000 ft and above.	Vehicle to operate in the given temperature range. The vehicle to start easily in the lowest temperature of $(-) 20$ and below, the cold starting to be standard arrangement. Vehicle to negotiate the altitude of 15000 ft and above.
<b><u>DIMENSIONS</u></b>			
23	<u>Length</u>	5000 – 5500 mm	Length should be in the range of 5000 – 5500 mm
24	<u>Width</u>	2000 – 2300 mm	Width should be in the range of 2000 – 2300 mm
25	<u>Height</u>	2200 – 2500 mm	Height should be in the range of 2200 – 2500 mm
26	<u>Ground clearance</u>	Min. 250 mm	Ground clearance not less than 250 mm.
27	<u>Wheel base</u>	2900 – 3200mm	Should be in the range of 2900 –

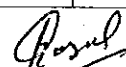
  
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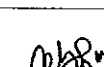
  
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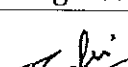
  
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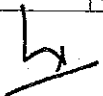
  
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			3200mm	
28	<u>Track</u>	1600 – 1800mm	Should be in the range of 1600 – 1800mm	
<b><u>ELECTRICAL</u></b>				
29	<u>Vehicle information System</u>	Provision of informing vehicle Engine temperature, speedometer, odometer, Tyre pressure indicator, hand brake engaged warning etc. Provision of wind screen wiper, Side view mirrors remotely adjustable from inside cabin. Rear view camera.	All the information should be available on the dash board in front of driver.  Windscreen wipers to have intermittent with low and high speeds. Rear view camera for better reversing.	
30	<u>Battery</u>	Battery should be of Gel type 180Ah or more corresponding to the lighting arrangement of vehicle.	Gel type Battery should have protection from over charging, over current, over voltage and short circuit. One spare battery may be provided for emergency.	
31	<u>Lighting arrangements</u>	i) Two/Four head lamps at the front. ii) Turn signal indicators both at front and rear. iii) Reverse light and convoy lights. iv) Light for map reading	The head lamps so provided should have sufficient lighting during night. Sufficient lighting inside the body compartment should be provided.  Blackout arrangement should be such that all lights except	

  
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		(location as per requirement). v) Blackout arrangement /switch vi) Inspection lamp in engine compartment.	convoy and map reading lights all lights should switch off, easy to operate.	
<b>SPECIAL ARRANGEMENTS</b>				
32	<u>Self-Recovery Winch</u>	A Self-Recovery Winch in the front of the vehicle with a cable of minimum 15 to 20 meters length and a suitable hook capable of recovering the vehicle.	Self recovery winch should be strong enough for recovering at least one light vehicle.	
33	<u>Roof Hatch</u>	A hatch of 20X20 cm to be provided with turret traversing at least 240° and suitable arrangement to mount and fire a 7.62 mm Medium Machine Gun.	The roof hatch should be comfortable enough to stand and fire. The hatch should be of split type easy to open and close.	
34	<u>Fire Extinguisher</u>	Min. Two nos. of Fire Extinguisher, one litre each.	The two nos. Fire Extinguisher to be fitted inside the body compartment for easy access.	
35	<u>Spare Jerrycans for Fuel</u>	At least two Jerry cans of 20 Ltrs each to carry extra fuel for vehicle.	There has to be provision outside the body of vehicle to place at least Two in Service jerry cans for extra fuel.	
36	<u>Radio Set for Communication</u>	Bracket for mounting Radio set and arrangement to fix antenna for effective communication	For effective communication a provision has to be made for fixing the radio set inside the	

  
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		during patrol/operations.	vehicle and an arrangement to fix the antenna outside the vehicle.	
37	<u>GPS facility</u>	GPS facility for vehicle navigation.( Optional as per requirement of indenter).	There has to be GPS facility for navigation purpose.	
38	<u>Tow Hooks</u>	Tow hooks at front and rear.	Provision of tow hooks at front and rear	
<u>Miscellaneous</u>				
39	<u>Training</u>	Supplier to impart training to ITBP personnel for operation and maintenance of the vehicle. Work shop repair manual, Illustrated parts catalogue, operation and maintenance manual (Hard & soft copy) to be provided.		
40	<u>After Sale Service</u>	After sale service to be provided on requirement along with regular supply of spare parts, maintenance parts should be readily available for at least 10 years from the date of purchase.		
41	<u>Warranty</u>	Supplier vehicle warranty for at least one year with further		

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		extended warranty for 02 or more years or best available warranty scheme from the firm should be provided.		
42	<u>Field Trial</u>	Field trial: Procurement of special purpose vehicle would be considered subject to successful field trial of technically qualified vehicle in the areas of deployment of ITBP. Vehicle should be readily available for trial by the bidder. Trial will be carried out by a senior technical officer.		

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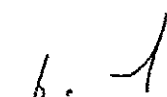
**FINAL TRIAL DIRECTIVE IN RESPECT OF 'HIGH POWERED SPECIALIZED UTILITY VEHICLE FOR MOUNTAINOUS REGION'**

S.N	PARAMETERS	SPECIFICATIONS	PROCEDURE	RESULT EXPECTED
1	<u>ENGINE</u>	Diesel engine, CRDI, Turbo charged, intercooler, Water cooled, EURO/ <u>BS IV</u> or Higher (Suitable to deliver the rated output). Capacity of engine should be min.3 Ltrs (3000 CC).	The VRDE certificate provided by the firm will be verified.	Should be as per the desired specifications.
2	<u>Horse power</u>	Not less than 200 hp	The VRDE certificate provided by the firm will be verified.	Should be as per the desired specification.
3	<u>Torque</u>	Not less than 350 Nm	The VRDE certificate provided by the firm will be verified.	Should be as per the desired specification.
4	<u>Kerb weight</u>	Not more than 3750 kgs.(Including weight of Bracket for radio communication set, Roof hatch, Self recovery winch, tow hooks).	Will be checked physically by weighing	Should be within the desired specification.
5	<u>Payload</u>	Min. 1000 Kgs	Will be checked physically.	Should be as per the desired specification.
6	<u>Gradability</u>	Min. 30 Deg (Fully Laden) with approach angle not less than 25 Deg and Departure angle 18 Deg.	Will be checked physically by driving the veh. on 30' slope. or the certificate provided by the firm will be	Should be as per the desired specification.

  
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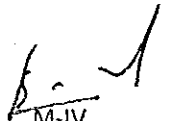


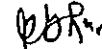



  
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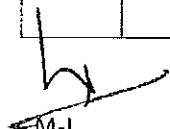





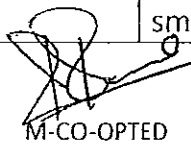
  
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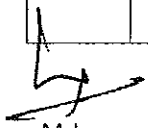
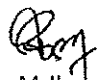
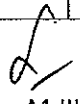
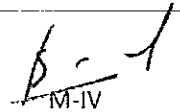

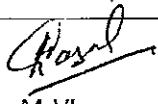

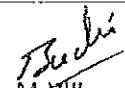
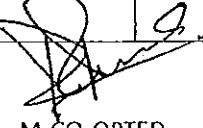

			verified.	
7	<u>Side Slope Capability</u>	Min. 17 Deg	Will be checked physically by driving the veh. on 17 slide slope. or the certificate provided by the firm will be verified.	Should be as per the desired specification.
8	<u>Turning Radius</u>	Less than 7.5 mtrs	By steering the wheel extreme Left/Right of the vehicle and driving the vehicle in same condition will form a circle (Chalk powder or any other colour may be used on the wheels for marking). The inner circle may be measured to get the Turning radius or the certificate provided by the Firm may be verified.	Should be within desired specification.
9	<u>WEIGHT</u>	Not more than 4800 kgs	Will be checked physically by weighing the vehicle with full pay load.	Should be within the desired specification.
10	<u>Seating Capacity</u>	Minimum 08 – 10 persons	Will be checked physically by placing the soldiers.	Should comfortably accommodate 8-10 soldiers with arms & amns.

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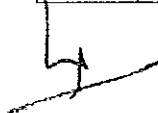



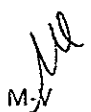

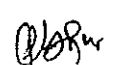



11	<u>Fordability</u>	Min 500 mm	Driving the vehicle in 500 mm water covered pond.	Should easily pass through the water without any hindrance.
12	<u>Fuel Tank Capacity</u>	Min. 60 Ltrs. (with jerry cans 100 ltrs)	Will be measured physically.	Should accommodate 60 ltrs of fuel.
13	<u>POWER TRANSMISSION</u>	<p>Automatic or Manual Transmission with min.04 forward and one reverse gears. Drive should be selective both 4X2 &amp; 4X4(Low &amp; High). Shifting mechanism should be of electronic.</p> <p><u>Operating Capability</u> : AT the height of 15,000 ft and above .</p>	<p>Will be checked Physically by driving the vehicle on different kinds of terrain (plain / hilly / metalled / Cross country). The 4X4 (Low &amp; High) application will also be checked by driving. Vehicle will be driven at the height of 15000 ft and above.</p>	<p>Should consist of Min. 04 forward and one reverse gear. The drive (4X2/4X4) will be checked by physically engaging and disengaging. Shifting 4X4 (High) should be on the go where as for 4X4 (Low) should engage while the vehicle is completely halted. At the height of 15000 ft and above the shifting of gears and 4X2/4X4 operation in case of manual transmission should be easy and smooth. In case of</p>

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				automatic transmission the vehicle should negotiate the height smoothly either with 4X2 or 4X4.
14	<u>SUSPENSION</u>	All four wheels independent suspension, with shock absorbers/coil springs.	Will be checked physically by driving the vehicle on rugged terrain.	All wheels should be independent suspension.
15	<u>Wheels/Tyres</u>	<p>Tubeless and run flat tyres of appropriate size corresponding to the ground clearance, Suitable for metalled road and cross country movement on hills. One spare wheel to be provided. Traction control system (TCS) should be provided. Run flat system should be as per FINABEL standard. Central Tyre Inflation System (CTIS) may be provided (Optional as per requirement of the indenter).</p> <p>There has to be provision to fit anti skid chains during winters.</p>	Will be checked physically for the tyres by driving on metalled and cross country movement on hills. TCS will be checked during cross country movement. Tyres with run flat will be verified by the certificate provided by the firm. If required can be tested as per FINABEL standard. CTIS will be checked by driving in different conditions of terrains. The anti skid chains will be checked by fitting on tyres and driving the vehicle in snow.	The driving with these tyres should be smooth to steer the vehicle on corners. The run flat tyres will be tested by driving 50 kms. With flat tyres. The CTIS should function as desired. The fitment of anti skid chains should be easy.

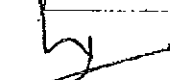
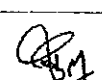

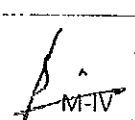

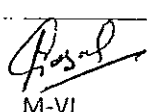
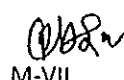
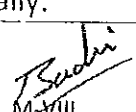
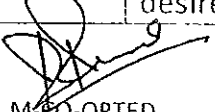

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16	<u>Steering</u>	Right hand drive with Power steering.	Will be checked physically by driving.	Should be as per specification.
17	<u>Body Configuration</u>	Body of vehicle should be of Hard top shell, all weather resistant viz. Hot & Cold temperatures, and Severe rain. With sufficient reinforcement under the body. Should have 03 door/05 door concept	Will be checked physically.	Should be as per specification.
18	<u>Power To Weight Ratio</u>	More than 25 kW/Ton	Will be verified by the certificate provided by the firm.	Should be as per specification.
19	<u>Range of Operation</u>	400 Kms on Highways 300 Kms on Hilly terrain	Will be checked physically by driving the vehicle.	The vehicle to cover 400 kms on highways and 300 kms on hilly terrain.
20	<u>Brake System</u>	<u>Front &amp; Rear</u> : Hydraulic / Air with dual circuit with Disc on front and Disc/Drum on rear wheels. Anti Lock Braking System (ABS) should be provided.  Parking brake on rear/ front.	Will be verified by the certificate of VRDE provided by the firm. ABS will be checked by applying brakes suddenly.	Should be as per specification.
21	<u>Heating/Cooling of passenger compartment</u>	Heating arrangement should be provided with either HVAC system or equivalent arrangement to be provided.	Will be checked physically during winter when the temperature is below (-)	The HVAC or suitable system should maintain the

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		Provision for Demisting and Defrosting to be provided.	20°.	temperature of 22 ± 5° when the ambient temperature is below (-)20°.
23	<u>Vehicle operating Temperatures</u>	Vehicle to operate in the range of min. (-) 20° and below to max. (+) 45°. Cold starting aid to be as a standard fitment.  Altitude range is 15000 ft and above.	Can be checked by conducting trial at various locations.	Should perform well in the given temperature range.
<b><u>DIMENSIONS</u></b>				
24	<u>Length</u>	5000 – 5500 mm	Will be measured physically.	Should be within specified range.
25	<u>Width</u>	2000 – 2300 mm	Will be measured physically.	Should be within specified range.
26	<u>Height</u>	2200 – 2500 mm	Will be measured physically.	Should be within specified range.
27	<u>Ground clearance</u>	Min. 250 mm	Will be measured from the lowest portion of the vehicle under chassis from the ground.	Should be as per desired specification.
28	<u>Wheel base</u>	2900 – 3200mm	Will be measured physically.	Should be within the desired specification.
29	<u>Track</u>	1600 – 1800mm	Will be measured physically.	Should be within the desired specification.

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<b>ELECTRICAL</b>				
30	<u>Vehicle information System</u>	Provision of informing vehicle Engine temperature, speedometer, odometer, Tyre pressure indicator, hand brake engaged warning etc. Provision of wind screen wiper, Side view mirrors remotely adjustable from inside cabin. Rear view camera.	All the parameter will be checked physically for proper functioning.	Should be as per the prescribed specification.
31	<u>Battery</u>	Battery should be of Gel type 180Ah or more corresponding to the lighting arrangement of vehicle.	Will be checked physically and the certificate provided by the firm will be verified.	Should be as per specification.
32	<u>Lighting arrangements</u>	i) Two/Four head lamps at the front. ii) Turn signal indicators both at front and rear. iii) Reverse light and convoy lights. iv) Light for map reading (location as per requirement). v) Blackout arrangement /switch vi) Inspection lamp in engine compartment.	Will be checked physically by operating the mechanism.	Should be as per desired specification.
<b>SPECIAL ARRANGEMENTS</b>				
33	<u>Self-Recovery Winch</u>	A Self-Recovery Winch will be provided in the front of the vehicle with a cable of minimum 15 to 20 meters length and a	Will be checked by recovering a light vehicle and the cable will be	Should easily pull the light vehicle up to the desired destination.

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		suitable hook capable of recovering the vehicle.	measured for its length.	The mechanism should be easy to operate.
34	<u>Roof Hatch</u>	A hatch of 20X20 cm to be provided with turret traversing at least 240° and suitable arrangement to mount and fire a 7.62 mm Medium Machine Gun.	will be checked physically.	Should be as per the desired specifications.
35	<u>Fire Extinguisher</u>	Min. Two nos. of Fire Extinguisher, one litre each should be provided.	will be checked physically.	Should be as per the desired specifications.
36	<u>Spare Jerrycans for Fuel</u>	At least two Jerry cans of 20 Ltrs each to carry extra fuel for vehicle.	will be checked physically.	Should be as per the desired specifications.
37	<u>Radio Set for Communication</u>	There has to be a bracket for mounting Radio set and arrangement to fix antenna for effective communication during patrol/operations.	Will be checked physically.	Should be as per the desired specifications.
38	<u>GPS facility</u>	GPS facility for vehicle navigation.(Optional as per requirement of indenter).	Will be checked physically.	Should be as per the desired specifications.
39	<u>Tow Hooks</u>	Tow hooks at front and rear.	Will be checked physically.	Should be as per the desired specifications.

  
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
  
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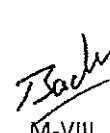
  
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