

DIRECTORATE GENERAL NATIONAL SECURITY GUARD
OPERATIONS BRANCH (WE SEC)

1. Formulation of QRs for "Pre Owned High End Vehicles" as per Appx att are being contemplated.
2. OEM/Firms/vendors are requested to forward their comments/suggestions on the draft QRs as per proforma given below alongwith the details (product specifications, pectoral's etc) of their product meeting the referred QRs.
3. It is requested that comments if any on the QRs may please be forwarded to the under mentioned address within 30 days.

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QRs FOR PRE OWNED HIGH END VEHICLES

The system should have the following features/ capabilities :-	
1	A medium vehicle with cross county mobility with two wheel drive.
2	Vehicle should be of White/ Black colour.
3	Should have cabin of comfortable size.
4	Fuel tank capacity of minimum 40 liter.
5	Seating Capacity - Should have provision for sitting of minimum 7 persons including the driver.
6	The vehicle should be air-conditioned with uniform cooling and heating mechanism.
7	Suspension System should be suitable.
8	Stability to drive with full payload on a gradient of minimum 15° and slide slope of minimum 15°.
9	<u>Physical Parameters.</u> (a) Length –Less than 5000mm (b) Width- Less than 2000mm (c) Vehicle emission compliance- BS-IV (d) Type of Veh Body - Chassis Frame/ Monocoque (e) Drive axle – Rear (f) Height – Less than 2000mm (g) Wheelbase – Less than 3000mm (h) Ground Clearance – Greater than 175mm (j) Kerb weight – Less than 2200kg (k) Door – 05(Five)
10	<u>Technical Parameters.</u> (a) Displacement - Greater than 1900cc (b) Veh air intake system – Turbocharged (c) Valve/ cylinder - 4 (d) Drivetrain – Rear Wheel Drive (e) Fuel Type - Diesel/ Petrol (f) Front Brake Type - Drum (g) Turning Radius - Less than 5.5 meters (h) Steering Type – Power Assisted (j) Transmission Type – Manual (k) No of Gears - 5

11	<u>Additional Features.</u>
	(a) Wheels – Steel Rims
	(b) Spare Wheel – Steel
	(c) Steering Adjustment - Tilt
	(d) Driver Seat Adjustment – Manual
	(e) Front Passenger Seat Adjustment – Manual
	(f) Instrument Cluster – Analog
	(g) Trip Meter – Electronic 2 Trips
	(h) Low Fuel Level Warning – Yes
	(j) Tachometer – Analog
	(k) Seat Belt Warning -Yes
	(l) Anti Lock Braking System - Yes
	(m) Electronic Brake - Force Distribution (EDB) – Yes
	(n) Engine Immobilizer - Yes

**DRAFT QUALITATIVE REQUIREMENTS(QR) AND TRIAL DIRECTIVE (TD) OF HYDRAULIC MULTIPLE ASSAULT RAMPS
SYSTEM MOUNTED ON SOFT SKINNED VEH**

Ser No	Parameters	Draft QR for Hydraulic Multiple Assault Ramp System	Trial Directives
1.	Specification	<p>Physical Characteristics: The equipment should meet the following criteria:-</p> <ul style="list-style-type: none"> (a) Hydraulic Operated Multiple Ramps sys mounted on soft skinned veh for Aircraft intervention. (b) The ramp system must have Two Independently Operated Multi Angle Extension Hydraulic Ramps that permit simultaneous, multi deck entry. (c) Heavy duty construction preferably made from air craft grade aluminium, high strength steel and stain less steel fasteners. The truss frame spanning of the veh should support all components of the system. (d) The ramp sys must be able to incorporate options to reach upper doors of B-747 and Airbus A-380. (e) Minimum service life of 10 yrs. (f) The eqpt should be light weight, sturdy & durable. (g) The equipment should have high quality anti-rust coating/treatment to withstand vagaries of weather. (h) Capable of withstanding prolonged exposure to adverse environmental conditions as per the following :- <ul style="list-style-type: none"> (i) Storage temperature - -40 C to + 55 C (ii) Operating temperature - -40 C to + 55 C (iii) Relative humidity - 95% (iv) Should be able to withstand wind load. (j) The weight of the Hydraulic Multiple Ramp System with base veh should not exceed max of 7 tons. (k) Front Ramp should have flexibility of turning horizontally to cater for simultaneous entry in 2 door of different deck only any aircraft. 	<ul style="list-style-type: none"> (a) BOO will physically check eqpt with a rep of OEM. (b) BOO will physically check equipment by operating the ramps on multiple decks of double deck aircraft. (c) OEM to provide lab certificate and test reports for materials used. (d) BOO will physically check by operating the ramp sys on B-747 or Airbus A-380 uppersdoors. (e) OEM certificate for 10 yrs shelf life will besubmitted. (f) OEM to provide certificate. (g) OEM to provide lab certificate and test reportsfor materials treatment. ASTM standards D2247-15 compliant (h) OEM to provide test reports for the said parameters on the eqpt. (j) OEM to provide eqpt load distributioncertificate of ramp sys. The ramp sys will betaken to heavy balance and the wt will be taken.

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		<p><u>Essential Requirements.</u></p> <p>(a) The ramp sys must have two independently operating platforms/Ramps. The multi angle and dual hydraulic ramp which are independent to each other should be capable to assist simultaneous intervention of Boeing 747 and Air Bus A-380 top deck and lower deck doors. Considering the details of height of top hatch for Boeing 747 and Airbus 380, it is essential that the height of the ramp system with attachments should be min 11m, to assist in reaching the top of fuselage of following aircraft:-</p> <p>(i) <u>Boeing 747</u>. To carryout tophatch entry (Height of tophatch 10.39m)</p> <p>(ii) <u>Airbus A-380</u>. The max height of ac fuselage is 11.14m and height of tail wing is 11.07m</p> <p>(b) The eqpt should not be a prototype or first production but should be in operational use with Special Forces around the world for tactical entry of commandos inside the aircrafts.</p> <p>(c) Front part of the Ramp Extension should have Horizontal move capability to cater for simultaneous entry into A-380 and B-747 upper deck and lower deck doors with single ramp system.</p>	<p>(a) BOO will physically check the reach of ramp sys on Boeing 747 or A-380. The upper deck and door must be accessible.</p> <p>(b) OEM to provide certificate that ramp sys is not a prototype and proof that the ramp sys is in operational use with some SF in the world.</p>

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2	<u>Engagement of Target Aircraft.</u>	<p>The veh and ramp configuration should be capable of addressing tactical aspects of Counter Hijack assault on all commercial aircrafts. In this context, the following requirements are envisaged :-</p> <ul style="list-style-type: none"> (a) Rapid Ramp Extension/Deployment. This aspects is critical for success of Counter Hijack operation and requisite ramp extension characteristics are as elucidated in para 8. (b) Comfortable ramp angle of tactical assault including rapid and simultaneous intervention by six (06) commandos on each ramp. (c) Optimal configuration to ensure rapid extension/deployment of ramp . (d) Optimal ramp configuration to ensure stability of host vehicle of the ramp system during high speed tactical deployment/manoeuvre. Vehicle stability considerations are as elucidate in para 13 and succeedingparas. (e) Removable side safety railings or parameter handrails to ensure safety of commandos positioned on the ramp during high speed vehicle manoeuvre/deployment. (f) Capable of addressing all commercial aircraft doors including simultaneous entry to upper deck and lower deck doors of Airbus A-380 & Boeing-747. (g) Capable of addressing height of tail wing of all commercial aircrafts. 	To be physically checked by BOO.

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3.	Tactical Requirements	<p>The features necessitated by tactical nuances of Counter Hijack operation are :-</p> <p>(a) Camouflage. The following measures are required to ensure tactical camouflage :-</p> <ul style="list-style-type: none"> (i) Ramp sys should be painted black in colour. (ii) Ramp sys should be coated with non-reflective paint. (iii) The surface of Ramp sys must have high traction and grip. <p>(b) Non skid ramp way to enable rapid intervention/assault.</p> <p>(c) High side railings perimeter handrails for handhold so as to enable faster movement. This is also required to ensure safety of assault troops in high speed vehicle movement during operation.</p>	To be physically checked by BOO.

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4.	<u>Ramp Configuration.</u>	<p>The essential pre-requisites are as under :-</p> <ul style="list-style-type: none"> (a) Modular multiple independent ramps to have configuration such that each ramp has internally stowed extension allowing for max reach and veh front end clearance. (b) The ramp sys must be upward compatible and have capability of side deployment. (c) Detachable stiles/Modules with the following options :- <ul style="list-style-type: none"> (i) Tactical ramp with multiple angle extension ramp. (ii) Tactical elevated platforms for Sniper/Observation post. (iii) Perimeter breach platforms/ramp. (iv) Tactical extension/sliding platforms suitable for deployment of adetachment of 06 commandos. (v) Heavy duty rubber cushion to be provided infront of the Ramp to provide safety for airport during ramp operation (d) The ramp sys must be able to incorporate options to allow operator to expand tactical capabilities beyond the ramp sys itself. 	BOO will physically check the multiple ramps their extensions, data cable modules and tactical options for the ramp sys.
5.	<u>Ramp Extension.</u>	Timeframe and mechanics of ramp extension are the most critical determinant factors in respect of operational efficiency of the eqpt. The multiple ramps should be capable of reaching max height in less then 10 secs.	To be physically checked by BOO.

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6.	<u>Ramp Extension Mechanics.</u>	<p>The mechanics of ramp extension should meet the twin criteria of stability and speed. Therefore, the fwgreqmt should be fulfilled:-</p> <ul style="list-style-type: none"> (a) The ramp sys must have internally stowed extensions for size reduction and further elevated access. (b) The base platform/section must have hydraulic maneuver capability. <ul style="list-style-type: none"> (i) This is reqd to provide stability to the base ramp/platform. (ii) Stability and ease of extension of subsidiary ramp/modules will depend on the stability of base ramp/platform. (c) Multi angle extension ramp configuration with two independently operated hydraulic ramps that permit simultaneous, multiple deck entry to accommodate six (06) fully equipped commandos with tactical combat loads and auxiliary eqpt. 	BOO will check for stowed extensions for reduction in size of ramp sys and check the multiple ramps for their stability.
7.	<u>Hydraulics of Ramp System</u>	<p>The hydraulic system with multiple ramps should have the fwg essential characteristics :-</p> <ul style="list-style-type: none"> (a) Rapid base ramp extension. (b) Rapid base ramp elevation/depression. (c) The hydraulic system of the ramps should be independent of the veh/veh hydraulics. (d) Emergency mech deployment mode. (e) Switching facility between hydraulic and mech modes. (f) The hydraulic fluid used should have fire resistance characteristics. (g) The Ramp sys must have history of little to no maintenance or service issues while being used in operations. 	OEM to provide certificate and same to be checked by BOO physically .

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8.	<u>Ramp Extension Timeframe</u>	<p>The fwg op reqmt should be addressed in term of complete readiness of the ramp system from the time of ignition/start of the engine of the host veh :-</p> <p>(a) Both Ramps elevation/depression from min to max and max to min in less than 45 seconds.</p>	BOO will check the time of complete readiness of ramp sys.
9.	<u>Rotating Ladder Turret.</u>	<p>The fwg op reqmt should be addressed:-</p> <p>(a) Rotable ladder turret with mechanical manoeuvre capability.</p> <p>(b) Rotable ladder turret should be loc at the extension of ramp system.</p> <p>(c) 360 degree ladder deployment capability.</p> <p>(d) Perpendicular ladder alignment capability.</p> <p>(e) Azimuthal ladder alignment capability.</p> <p>(f) Emergency mechanical deployment mode.</p> <p>(g) Switching facility between hydraulic and mechanical mech modes.</p>	BOO will physically check for the same on various types of aircrafts.

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10.	<u>Surveillances and Real Time Intelligence</u>	<p>The CH Ops is likely to witness highly fluid tactical battle with long term strategic implications. Therefore, flow of real time info to command element is critical and the fwg surveillance/intelligence gathering features are recommended:-</p> <ul style="list-style-type: none"> (a) Panoramic vision/monitoring facility for veh driver as also for multiple ramp operator including robust transmission link to ops room. (b) CCTV monitoring facility to tactical battle space for the veh driver/ramp operator including robust transmission link to ops room. (c) Sensor at front attachment of the Ramp to give an idea to driver about the distance of the Ramp from aircraft body & video camera with live feed at drivers console. 	<ul style="list-style-type: none"> (a) BOO will check the operations of CCTV on ramp sys and its relay to monitor for veh driver/ramp operator. (b) BOO will also check the transmission of CCTV placed on ramp sys to a secondary monitor placed as 1.5 km away.
11	<u>Transportation</u>	<p>Rapid mobilization of Counter Hijack Task Force (TF) by air is a critical element of Counter Hijack operation. Therefore, it is imperative that the eqpt peculiar to Counter Hijack operation, such as multiple intervention ramp, is capable to being easily transportable. The eqpt should fulfill the fwg criteria:-</p> <ul style="list-style-type: none"> (a) Easy to assemble and dismantle. (b) Modular design. (c) Capable of transportation in a service aircraft (C-130) and C-17. (d) Capable of being transported by a medium payload veh. 	<p>Required certification from OEM for transportability design and constr details of ramp sys.</p>

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12.	<u>Veh Consideration.</u>	<p>(a) The multiple hydraulic ramps of which each ramp should have internally stored extensions allowing for max reach and veh front end clearance. The ramp sys with host veh should not exceed 4.5m in length, 3.5m in width and 4m in height.</p> <p>(b) The host veh should be right hand drive and preferably manufactured by Indian auto mobile company which will act as the base of the system .</p> <p>(c) The host veh must be able to carry the weight of ramp sys and should preferably have all wheel transmission.</p> <p>(d) The veh should maintain stability during driving operations around and over obstacles with ramp sys.</p> <p>(e) The host veh must also have the power to handle extra weight of the ramp sys.</p> <p>(f) The host veh must be able to close the distance quickly with min speed of 55 km/hr with ramp sys without any risk and instability.</p> <p>(g) The host veh should be provided with windshield armoring. The windshield should be of NIJ level III.</p> <p>(h) The host veh should be installed with run flat system to the veh wheels. The run flat system/inserts must be able to support the weight of veh with ramp sys if the tire(s) become deflated.</p>	<p>(a) BOO will physically check the veh stability with ramp sys. Veh to driven 90 km/hr on a straight run and maneuvered at the speeds of 60km/hr.</p> <p>(b) Certificate of OEM for flat run tyre sys spec and armoring of veh test details and results.</p>

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13.	<u>Eqpt Fitment.</u>	In case the eqpt is not permanently mounted onto the veh, the eqpt should be capable of being mounted onto the veh in less than 30 mins and the dismounting process of the same should not take more than 20 mins.	To be physically checked by BOO.
14.	<u>Ballistic Protection.</u>	The ramp sys must be able to provide ballistic protection for operators when deployed on the sys. NIJ level III protection in form of ramp ballistic panels to be provided. Removable ballistic shields/ramp panels at intervention/target engagement end should be integral to the ramp/rampway structure. Modular design and ease of attachment of ballistic shields/ramp panels to ramp/ramp way structure is a critical requirement. The ramp sys must be able to provide ballistic protection for operators when deployed on the sys.	Details to be provided by OEM for Ballistic test results. BOO will physically check the design and ease of attachment of ballistic shields/ramp panels to ramp/ramp way structure.
15.	<u>Stability.</u>	<p>The stability criteria envisaged are as under:-</p> <ul style="list-style-type: none"> (a) The host veh should be able to approach the aircraft at a speed of 55 km/hr. The platform should be stable enough to transport and withstand rapid and simultaneous intervention by six (06) fully equipped commandos. (b) The host veh should be capable of tactical maneuvers with full payload at a speed of 55km/hr, this includes high speed deployment & fast banking/ turning etc. 	To be physically checked by BOO
16.	<u>Surprise.</u>	<p>The ramp mounted veh should have discrete transport covers to disguise its deployment close to the target aircraft. The requisite features for discrete transport cover are:-</p> <ul style="list-style-type: none"> (a) The cover should be capable of quick attachment/removal of cover on top of ramp system. (b) The cover should enable concealment of this eqpt in semi extended state. (c) This reaction time for removal of covers and complete ladder extension should not be more than 45 sec. 	To be physically checked by BOO.

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17.	Explosive Breaching	The veh and ramp system should have an explosive breaching attachment/accessory including explosive shaped charges for different aircrafts to breach aircraft doors in case of emergency without causing damage to the equipment.	OEM should provide demo if preferable or a video demonstrating the explosive breaching capability of the system on old aircraft body.
18.	Manuals	Manufacturer must provide technical literature and operator/maintenance manuals in English, also provide spare parts and ramp parts list with appropriate pricing for up to 5 years.	
19.	Training	Onsite training on repair and operation usage by the OEM (for both vehicle and ramp[by either same OEM or each respective OEM)-certificate to be issue to operators by OEM after completion.	