

| Serial num | Rqmt. No. | System Requirement or Constraint | Minimum Requirement (Measure of Performance (MoP) Threshold) | Objective (exceeds Threshold) | UV-M Priority | UV-L Priority | Verification Method | Remarks | Object Type | EVIDENCE / RESPONSE REQUIRED |
|------------|-----------|--|--|----------------------------------|---------------|---------------|---------------------|---|-------------|---|
| 1 | 0.1 | Part 3 Individual System Requirements and Constraints | | | | | | | | |
| 2 | 0.1-02 | The System Requirements shall define what the system, i.e. Utility Vehicle – Medium/Light (UV-M/L) must be able to do and what technologies or solutions are needed to do it. | | | N/A | N/A | | | Info/Advice | |
| 3 | 0.1-03 | This System Requirement Document contains reference to standards that have been drafted for use in the NZDF. Where equipment or manufacturers have used different standards, NZDF may deem those standards to be equivalent to the drafted standard. The onus of proof of equivalence is the responsibility of the manufacturer or equipment supplier. | | | N/A | N/A | | Respondents are expected to demonstrate how their response meets or exceeds such requirements and, if using alternative national standards such as US MIL-STD, should declare any other military standards or parts of, to which they comply. | Info/Advice | |
| 4 | 1.0-01 | The requirements listed in Section 1 are the System Requirements that are common to all variants of the UV-M/L and shall be read together with those requirements contained in Section 2, Variant Specific Requirements of this spreadsheet for each variant as applicable. | | | N/A | N/A | | | Info/Advice | |
| 5 | 1.0-02 | If available, requirements refer to NZDF anthropometric ranges for male and female genders. All requirements relating to vision and sizing (reach, etc.) will be required to be designed for body dimensions most relevant to the related operational task allowing for the variation in body sizes of NZDF Personnel. This will include male and female body sizes. The target range for design MOP Threshold will typically be 5 percent to 95 percent of the relevant body dimension and the MOP Objective 3 percent to 97 percent. Application of the appropriate dimensions should be reviewed during the design process and Design Reviews in advance of Acceptance Testing. | | | N/A | N/A | | A summary of NZDF anthropometric data is in Annex E to this SoR (DTA 3750/D0520). Note that 25 mm needs to be added to all heights (sitting and standing) quoted in Annex E, to allow for personnel wearing the NZDF standard issue helmets. | Info/Advice | |
| 6 | 1.0-03 | The Medium Utility Vehicles (UV-M) could comprise of the variants as stated. | General Service (and Troop Carrier), Command and Control (Command Post & Forward Information Support Team (FIST)), Medical Evacuation (Medivac, Ambulance), and Maintenance Support (Forward Repair). | | N/A | N/A | | It may be possible to combine specific roles in some variants. This fits within the intent of a multi role vehicle to reduce the number of variants and reduce 'Through Life Support' cost for the Utility Vehicle Fleet. Maximum commonality is preferred across the Vehicles for multiple scalable fit outs, maintaining a suitable balance of Mobility and Payload. Specific Variant Requirements are listed in Section 2 below. | Info/Advice | |
| 7 | 1.0-04 | The Light Utility Vehicles (UV-L) could comprise of the variants as stated. | A General Service variant and a Command and Liaison variant. | | N/A | N/A | | | Info/Advice | |
| 8 | 1 | REQUIREMENTS COMMON TO ALL VARIANTS | | | | | | | | |
| 9 | 1.1 | ENVIRONMENTAL FACTORS (Common to all variants) | | | | | | | | |
| 10 | 1.1.1 | Operating Conditions | | | | | | | | |
| 11 | 1.1.1-01 | The UV-M/L will restrain the seated occupants in the event of a vehicle accident including rollover. | Seated occupant restraints, vehicle to comply with NZDF Roll Over Protective Structure (ROPS) EDSPEC-0001C and NZTA Land Transport Rules:Interior Impact 2001. | | M | M | Certification | EDSPEC-0001C includes compliance with Land Transport Rule, NZTA Land Transport Rules: Seatbelts and Anchorages 2002. To achieve NZTA certification the Contractor must demonstrate compliance with Seatbelts and Anchorages 2002 and Interior Impact 2001 Land Transport Rules. | Requirement | Are you proposing to comply with this, or claim equivalence, and if so, to which standard? |
| 12 | 1.1.1-03 | The UV-M/L will protect the seated occupants in the event of a vehicle accident including rollover. | Vehicle transport seated positions (including the Troop Carrying module) must comply with NZDF Roll Over Protective Structure (ROPS) Engineering Design Specification – 0001C of 20 Aug 2020 (EDSPEC-0001C). | | M | M | Certification | ROPS must be fitted to protect personnel and comply with stated standard. Compliance must be proven using non-linear Finite Element Analysis (FEA) and/or physical test approved by NZDF Land Engineering Design and Certification Authority. EDSPEC-0001C is sourced from ISO 3471:2008 / AS 2294:1977 Earth-moving Machinery Protective Structures. All other relevant requirements of ISO 3471 or equivalent Standard must also be met. EDSPEC-0001C achieves the objectives of ISO 3471:2008 The Contractor must prove compliance with EDSPEC-0001C. See Annex G for further information. EDSPEC-0001C includes requirements for compliance with NZTA Land Transport Rules: Seatbelts and Anchorages 2002 and NZTA approval of compliance with that rule is required, in addition to certification of the NZDF's additional requirements in EDSPEC-0001C. | Requirement | Please explain how your proposal will protect the occupant in event of a vehicle accident including rollover, i.e. will meet the ROPS requirements and demonstrate compliance. What have you done for other customers in terms of rollover protection for personnel travelling in your proposed vehicles? |

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| 13 | 1.1.1-04(a) | The UV-M/L shall be operated in the environment and with the usage patterns defined in the Mission Profile. | Able to operate <i>in compliance with the</i> Mission Profile (as described in Annex B). | See 1.1.1-04(b) for Objective target measure. | K | K | Analysis | Mission Profile provided as Annex B. | Requirement | Please confirm your proposed vehicles are able to operate in the environments and scenarios in compliance with the Annex B Mission Profile. Please also provide details on range & fuel consumption (combat laden at or above 90 km/h on level dry roads) of your proposed vehicles. |
| 14 | 1.1.1-04(b) | Requirement 1.1.1-04(a) was "The UV-M/L shall be operated in the environment and with the usage patterns defined in the Mission Profile". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The UV-M/L could be operated in the environment and with the usage patterns wider and more complex than those defined in the Mission Profile. | See 1.1.1-04(a) for requirement MoP Threshold. | Able to operate in a wider range of scenarios than those defined in the Mission Profile, e.g. C2 Extreme cold. | 2 | 2 | Analysis | Mission Profile provided as Annex B. | Requirement | Please describe any additional environmental conditions and usage patterns (over and above those outlined in the mission profile in Annex B) your proposed vehicles have been designed to operate in. Please provide examples of environments and mission profiles other customers are operating your proposed vehicles in. |
| 15 | 1.1.1-06 | The Combat-Laden UV-M/L should be usable by occupants wearing in-service clothing which will support operations in stated climatic conditions: A1 (Extreme Hot Dry), A2 (Hot Dry), B2 Wet Hot), B3 (Humid Hot), C0 (Mild Cold) and C1 (Moderate Cold), as defined per Table 1 in Chapter 1 of DEFSTAN 00-35 Environmental Handbook, Part 4 Natural Environments. | All tasks required in or on the vehicle and all equipment is accessible and operable by the 5th to the 95th percentile of both genders anthropometric ranges, wearing vest webbing and body armour (helmet and torso protection). | Better than MOP Threshold with the ability to accommodate the 3rd to the 97th percentile of both genders anthropometric ranges, wearing belt webbing and body armour. | 1 | 1 | Certification | In service clothing is described in Annex G. A summary of NZDF anthropometric data is in Annex E to this SoR (DTA 3750/D0520). Note that 25 mm needs to be added to all heights (sitting and standing) quoted in Annex E, to account for personnel wearing regulation issue helmets. | Requirement | Describe any modelling or physical tests that have been conducted, either during design, or product development, to support compliance. |
| 16 | 1.1.1-07 | The UV-M/L should be able to operate at altitudes as stated. | Altitude of 3000 m (above sea level) in climatic conditions specified in SR 1.1.1-06. | Better than MOP Threshold at Altitude of 4000 m. | 1 | 1 | Certification | | Requirement | Please describe the design analysis and/or physical tests that have been conducted in regards to operating in various climatic conditions, including the ones mentioned in this requirement. |
| 17 | 1.1.1-08 | Requirement Deleted | | | | | | | | N/A |
| 18 | 1.1.1-09 | The UV-M/L could be capable of decontamination internally and externally by the crew following a CBRN contamination using an in-service Multi-Purpose Decontamination System (MPDS). | Using current in-service decontamination system. | | 2 | 2 | Certification | Decontamination system is described in Annex G. | Requirement | Please describe how your proposed vehicles could be decontaminated. |
| 19 | 1.1.1-10 | The UV-M/L should provide a means of minimising the effects of a fire within occupant's area, i.e. a fire extinguisher should be able to be fitted in an easily reachable position in the cabin. | Provision for mounting a 1.5 or 2.5 kg NZDF hand held fire extinguisher(s). | | 1 | 1 | Inspection | 1.5 or 2.5kg fire extinguisher in common use in NZDF provided as GFE (size to be determined with Contractor). | Requirement | Please confirm there is room to fit a fire extinguisher (in an easily reachable position) in the cabin. |
| 20 | 1.1.1-11 | The UV-M/L may provide a means of minimising the effects of a fire within the engine compartment. | Provision for mounting a 1.5 or 2.5 kg NZDF hand held fire extinguisher(s). | A Fire Suppression System with additional manual initiation available from the Driver's position. | 3 | 3 | Certification | 1.5 or 2.5kg fire extinguisher in common use in NZDF provided as GFE (size to be determined with Contractor). See Annex G for further information. | Requirement | Please describe the features of your solution that minimise the impact of fire in the engine compartment, e.g. Provision for fire extinguisher in cabin, automatic fire suppression system, fire retardant barrier. |
| 21 | 1.1.1-12 | The UV-M/L may mitigate the effects of a fuel fire. | Any fuel fire should not have an impact on occupants or Mission Critical equipment. | Better than MOP Threshold with dual spray suppression systems or other type of recurring suppression. | 3 | 3 | Certification | | Requirement | Please describe the features of your solution that minimise the impact of fuel fires, e.g. cut-off valve, self sealing tanks. |
| 22 | 1.1.1-13 | The UV-M/L should minimise any flammable/corrosive fluid spillage in the event of a rollover. | Spill lids are fitted for fuel, coolant and any other liquid reservoirs in the vehicle. | Vehicle rollover, no spillage internal and/or external. | 1 | 1 | Certification | This is a NZ HSNO Act 1996 requirement. Spillage refers to vehicle fluids. | Requirement | Please note any features of your solution (such as fuel cut-off valves, double skinned fuel tank, baffles in tank, battery restraints, etc.) that minimise the impact of spillage in the event of a rollover. |
| 23 | 1.1.1-14 | The UV-M/L could provide protection from underbody scrapes and impacts. | 1. Should protect as a minimum: a. engine sump b. steering components c. exhaust d. brake pipes and air tanks fuel lines e. fuel tank(s) f. key electrical components g. oil pipes 2. Any other vulnerable area such that the vehicle experiences no loss of performance. | Better than MOP Threshold across all terrain with no reduction to mean time to repair. | 2 | 2 | Inspection | To prevent or minimise damage to such vital Systems when travelling across rough terrain. | Requirement | Please describe the features of your solution that provide protection from underbody scrapes and impacts, e.g. protection plates, recesses, housings, etc. |
| 24 | 1.1.1-16 | The UV-M/L should be resilient to rust, fresh and salt water corrosion, including post fording or/and beach landing. | The vehicle should meet its operation profile without functional corrosion failures throughout its service life with scheduled maintenance, cleaning, storage and shipping procedures. | Better than MOP Threshold. | 1 | 1 | Certification | NZDF post fording inspection and servicing if exposed to saltwater, utilises a product called "salt away" which neutralises the salt residue allowing low pressure water to wash away salt deposits. This is described in Annex G. Complying with DEFSTAN 00-35 Part 3. Protection of component parts and external fabric of the vehicle. | Requirement | Describe the construction materials and protection coatings that have been used, and any testing of their effectiveness. |

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| 25 | 1.1.1-17(a) | The UV-M/L could operate without significant loss of function or performance when subjected to the effects of accumulated ice. | Able to tolerate the effects of accumulated ice typically encountered in C1 (Moderate Cold) and C2 (Cold) Environments. | Better than Threshold with increased performance (C3 and C4) Environments. | 2 | 2 | Certification | Ice accumulation defined in Table 2 in Chapter 7-01 of DEFSTAN 00-35 Environmental Handbook, Part 4 Natural Environments. | Requirement | Explain any design features in regards to operating in the stated climatic conditions, and results of tests conducted. |
| 26 | 1.1.1-17(b) | The UV-M/L could operate without significant loss of function or performance when subjected to the effects of snow. | Able to tolerate the effects of driving snow in C1 (Moderate Cold) Environments. | Better than Threshold with increased performance (C2, C3 and C4) Environments. | 2 | 2 | Certification | Driving snow severity defined in Table 5 in Chapter 7-01 of DEFSTAN 00-35 Environmental Handbook, Part 4 Natural Environments and calculated analysis of static loads for snow accumulation. | Requirement | Explain any design features in regards to operating in the stated climatic conditions, and results of tests conducted. |
| 27 | 1.1.1-18 | The UV-M/L could be capable of operating in turbulent dust. | Able to tolerate the effects of turbulent dust at a concentration of 1.1 g/m3 ±0.3 g/m3 with an air velocity of 18 m/s for 3 hours on each vulnerable face. | Able to tolerate the effects of turbulent dust at a concentration of 2.2 g/m3 ±0.5 g/m3 with an air velocity of 18 m/s for 3 hours on each vulnerable face. | 2 | 2 | Design Review | Blown dust conditions defined in Table 1 in Chapter 9-01 of DEFSTAN 00-35 Environmental Handbook, Part 4 Natural Environments. Tolerance includes the ability of the vehicle to continue operating and its ability to prevent dust entry inside the vehicle. | Requirement | Explain any design features in regards to operating in the stated climatic conditions, and results of tests conducted. |
| 28 | 1.1.1-19 | The UV-M/L could operate without loss of function or performance to materials including plastic, fabrics and metal when subject to natural biological hazards and UV. | Materials resist degradation caused by Ultra-Violet radiation and micro-organisms (fungi, bacteria, algae). | N/A | 2 | 2 | Certification | | Requirement | Describe the measures employed to resist degradation and any reference standards. |
| 29 | 1.1.1-21 | The UV-M/L could minimise exposure of the payload to shock and vibration. | Complying with DEFSTAN 00-035 Environmental Handbook for Defence Materiel, Part 5 - Induced Mechanical Environments. | | 2 | 2 | Certification | Payloads as described in Annex C. | Requirement | Describe how your proposed solution(s) minimise payload shock and vibration (e.g. suspension characteristics that minimise shock and vibration, frame flexibility, tyre characteristics). Discuss relevant design features and results of tests conducted. |
| 30 | 1.1.2 | Constraints | | | | | | | Heading | |
| 31 | 1.1.2-01 | Constraints are the limitations or restrictions within which a system or capability must be designed, built or implemented. | | | N/A | N/A | | | Info/Advice | |
| 32 | 1.1.2-02 | The UV-M/L will be fully compliant with relevant New Zealand Legislation, Regulations and Standards. | Compliant with Land Transport Act 1998 and amendments, NZ Electrical (Safety) Regulations 2010 (where applicable), Hazardous Substances & New Organisms (HSNO) Act 1996 and amendments, and Health and Safety at Work Act 2015. | N/A | M | M | Certification | Compliance for Land Transport Act can be gained with approved exemptions. Links to Acts mentioned are contained in Annex G. | Requirement | Describe how you propose to ensure compliance with these New Zealand specific standards and regulations, e.g. engage NZ based certifiers to confirm compliance (or request exemption) with the various regulations, legislation and standards; demonstrated compliance with [NZ] accepted other country [or international] standards. |
| 33 | 1.1.2-03 | The UV-M/L may be compatible with the Generic Vehicle Architecture (GVA). | Partial or scalable GVA includes all vehicles integrated with: vehicle information interface, communications and equipment in several configurations. | Full GVA, including intention to integrate with future equipment. | 3 | 3 | Certification | DEFSTAN 23-09 Part 1 and part 2 only. Scalable to enable interface with NZDF current Sub Systems. Where full compliance has not been achieved, respondents should declare which parts of the standard they comply with. | Requirement | Please describe any GVA design considerations. |
| 34 | 1.1.2-05 | The UV-M/L systems (less C4I Integration) shall be designed such that, when C4I elements are integrated, the overall solution is able to comply with appropriate TEMPEST regulations. | Designs and installations comply with CNSSAM TEMPEST/1-13 "RED/BLACK Installation Guidance" as modified by the NZ Addendum to CNSSAM TEMPEST/01-13. | N/A | M | M | | Section 9 of CNSSAM TEMPEST/1-13 defines TEMPEST and provides background information including design principles. CNSSAM TEMPEST/1-13 "RED/BLACK Installation Guidance" is available from https://cryptome.org/2014/10/cnssam-tempest-1-13.pdf . The NZ Addendum to CNSSAM TEMPEST/01-13 is in the RFP reference material (see Annex G to this SOR). | Requirement | Please outline your planned approach to TEMPEST design requirements, including the previous experience of the Contractor, and any relevant subcontractors, in this area. |
| 35 | 1.1.2-07 | The UV-M/L may have an integrated platform Health Usage Monitoring System (HUMS). | 1. The vehicle has an integrated HUMS which: a. Collects and stores all unfettered vehicle data, data protocols and data dictionary, while in use. b. Is available on platform via onboard displays. c. Allows for transfer off the platform and made readable via a defined, open and published interface. d. Is not required to achieve the contracted reliability targets. e. Has fault coverage based on mission failure outcomes. | Compliant with DEFSTAN 23-09 Part 3 Health Usage Monitoring Systems (HUMS). | 3 | 3 | Certification | | Requirement | If proposed in your solution, please provide details of the information your HUMS solution collects, and how much data is held in the system. If available, please provide examples/references of how customers have extracted HUMS data from your vehicles and integrated it with their asset and/or maintenance management systems. We are particularly interested whether HUMS data from your vehicles has been previously integrated with SAP PM Computerised Maintenance Management System (CMMS). |
| 36 | 1.1.3 | Storage Conditions | | | | | | | Heading | |

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| 37 | 1.1.3-03 | The UV-M/L should be able to be secured for parking in barracks without the need to provide additional security measures. | The vehicle should be capable of being secured for storage (key start, can lock the doors). | | 1 | 1 | Certification | Ability to lock the vehicle. | Requirement | How are your proposed vehicles secured? |
| 38 | 1.2 | OPERATIONAL FACTORS (Common to all variants) | | | | | | | | |
| 39 | 1.2.1 | Signatures | | | | | | | | |
| 40 | 1.2.1.1 | Thermal Spectrum | | | | | | | | |
| 41 | 1.2.1.1-01 | The UV-M/L thermal signature could be minimised. | As low a thermal signature as possible in accordance with defined standard (DEFSTAN 08-006 Part 4 Chapter 7 Group 4. To prevent thermal detection). | | 2 | 2 | Design Review | | Requirement | Please outline what design and testing you have undertaken to minimise the thermal signature of your proposed solution(s). Please provide thermal signature test results, if available. |
| 42 | 1.2.1.2 | Acoustic Spectrum | | | | | | | | |
| 43 | 1.2.1.2-01 | The UV-M/L acoustic signature could be as quiet as possible. | The UV-M/L could be appropriately quiet for the operational use of the vehicle, when a. Vehicle is static and idling b. Vehicle is slowly driving past c. Vehicle is moving with a high engine speed. | | 2 | 2 | Certification | Comply with MIL-STD-1474E, Annex C, Aural non-Detectability Requirements, Table C-1. | Requirement | Provide maximum overall sound pressure readings (dB), and specify the frequencies these readings occur at. Per MIL-STD-1474E, readings to be taken at 2, 10 and 30 metre distances from vehicle when : a. Vehicle is static and idling, b. Vehicle is slowly driving past, c. Vehicle is moving with a high engine speed. |
| 44 | 1.2.1.2-02 | The noise levels of the UV-M/L when stationary with the engine running at the speed required to charge the batteries should be less than 85 dB(A). | Complying with stated NZ Standards and Regulations (i.e. less than 85 dB(A)). | | 1 | 1 | Certification | Health and Safety at Work Act 2015 and Health and Safety in Employment Regulations 1995. AS/NZS 1269:2005. ISO 1999:2013 - Reduce noise induced hearing loss. ISO 5128:1980 - Measurement of noise inside and immediately outside (beside the vehicle). Links to these are provided in Annex G. | Requirement | Describe, or provide, testing results that demonstrate compliance to the requirement. |
| 45 | 1.2.1.3 | Visual Spectrum | | | | | | | | |
| 46 | 1.2.1.3-02 | All external surfaces of the UV-M/L including hatches and doors requiring surface protection should be finished to an acceptable international paint standard. | An agreed process that results in conformance with the following: • Colour: NZ Army green as per colour provided in Annex G • Paint to provide a minimum useful life of up to 10 years and no less than 5 years • Paint primer system must provide resilience to salt conditions • Paint to provide UV protection specifically for NZ environmental conditions (up to NZ UV index of 13) • Paint able to be recoated with PPG products. | | 1 | 1 | Certification | PPG paint coatings typically used by NZDF are: • Zinc Epoxy Primer (SigmaZinc 109 HS), or • Epoxy Urethane Primer (EX-408), and • Performance Polyurethane Topcoat (PPT) 2K 'Acrythane' Acrylic Polyester Urethane topcoat (contains Isocyanates) | Requirement | Please confirm you can comply with this requirement. Additionally, please provide details on your paint specification, and paint application process. |
| 47 | 1.2.1.3-03 | All internal surfaces of the UV-M/L visible from outside (hatches and doors when open) should be painted in a colour compatible with the external colour scheme. | An agreed process that results in conformance with the following: • Colour: NZ Army green as per "spray out card" provided in Annex G, or an agreed compatible colour • Paint to provide a minimum useful life of up to 10 yrs and no less than 5 years • Paint primer system must provide resilience to salt conditions • Paint to provide UV protection specifically for NZ environmental conditions (up to NZ UV index of 13) • Paint able to be recoated with PPG products. | | 1 | 1 | Certification | PPG paint coatings typically used by NZDF are: • Zinc Epoxy Primer (SigmaZinc 109 HS), or • Epoxy Urethane Primer (EX-408), and • Performance Polyurethane Topcoat (PPT) 2K 'Acrythane' Acrylic Polyester Urethane topcoat (contains Isocyanates) | Requirement | Please provide pictures and/or diagram of vehicle interiors showing proposed internal colour scheme. |
| 48 | 1.2.1.4 | Electronic Spectrum | | | | | | | | |
| 49 | 1.2.1.4-01(a) | The UV-M/L's electrical and electronic systems shall be suppressed against Electromagnetic Interference (EMI). | Compliant with MIL-STD-461E (older standard) Electromagnetic Interference Characteristics, Requirements for Equipment. | See 1.2.1.4-01(b) for Objective target measure. | K | K | Certification | This is in relation to vehicle components that have the potential to produce EMI, e.g. alternator. Installed C4I comms will be addressed separately. Should the contractor not meet the threshold standard MIL-STD-461E but believe they can meet the intent of the requirement, they are invited to provide test results and other documentation to support compliance against the requirement. | Requirement | Describe design elements (e.g. shielding, filters, other EMI Suppression techniques), and provide any environmental testing that demonstrates your EMI levels (and compliance to the requirement). Please confirm the specification the vehicle has been qualified to. |

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| 50 | 1.2.1.4-01(b) | Key requirement 1.2.1.4-01(a) was "The UV-M's electrical and electronic systems shall be suppressed against Electromagnetic Interference (EMI)". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The UV-L's electrical and electronic systems shall be suppressed against Electromagnetic Interference (EMI). | See 1.2.1.4-01(a) requirement. | Compliant with MIL-STD-461G (latest standard) Electromagnetic Interference Characteristics, Requirements for Equipment. | N/A | 2 | Analysis | This is in relation to vehicle components that have the potential to produce EMI, e.g. alternator. Installed C4I comms will be addressed separately. | Requirement | Describe design elements (e.g. shielding, filters, other EMI Suppression techniques), and provide any environmental testing that demonstrates your EMI levels (and compliance to the requirement). Please confirm the specification the vehicle has been qualified to. | |
| 51 | 1.2.1.4-02 | The UV-M/L provisions to mount radio antenna should be placed to enable radio antennas to comply with Radio Frequency Hazard Safety (Radhaz). | The position of communication equipment should maintain minimum safety of the crew (HERP), fuel (HERF) or ordnance (HERO) by reducing exposure to harmful electro-magnetic radiation (NZS 2772.1:1999). | | 1 | 1 | Analysis | This is achieved collectively between the vehicle provider and C4I integrator (who may be the same party). Depending upon where antenna are placed, achieving compliance may require including a 'ground plane' above soft top ROP troop carrier (if fitted) and any personnel carried. | Requirement | Please highlight the areas on your proposed vehicles where antenna are typically mounted and any mounts you typically supply. If available, please provide results of any electromagnetic radiation tests. | |
| 52 | 1.2.1.5 | Engine Exhaust Gases & Cooling Airflow | | | | | | | Heading | | |
| 53 | 1.2.1.5-01(a) | The UV-M/L will meet NZ Transport Agency(NZTA) Land Transport Rule: Vehicle Exhaust Emissions 2007 (with an approved exemption). | Complying with NZTA Land Transport Rule with an approved exemption (An engine complying to Euro 3 standard(or equivalent) will need to get an exemption). | See 1.2.1.5-01(b) for Objective target measure. | M | M | Certification | If the engine proposed is not at least Euro 5 standard (or equivalent), e.g. a Euro3, the Contractor will need to apply for an exemption from NZTA. Any solution proposed needs the ability to run on F-35 and high sulphur fuels (by detuning or other method). See requirement 1.2.7-01. | Requirement | Please provide the certification of the European emission standard (or equivalent) your engine complies with. If your proposed engines are less than Euro 5 Standard (or equivalent), please outline how you propose to obtain an exemption from NZTA. | |
| 54 | 1.2.1.5-01(b) | Mandatory requirement 1.2.1.5-01(a) was "The UV-M/L will meet NZ Transport Agency(NZTA) Land Transport Rule: Vehicle Exhaust Emissions 2007 (with an approved exemption)". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The UV-M/L should meet or exceed NZ Transport Agency(NZTA) Land Transport Rule: Vehicle Exhaust Emissions 2007. | See 1.2.1.5-01(a) requirement. | Full compliance with NZTA Land Transport Rules (i.e. an engine complying to Euro 5 standard (or equivalent)), or better than Euro 5 emission reduction. | 1 | 1 | Certification | Any solution proposed needs the ability to run on F-35 and high sulphur fuels (by detuning or other method). See requirement 1.2.7-01. | Requirement | Please provide details on the fuel economy rating for your vehicles, e.g. xx L/100km. Also, please provide the assumptions / conditions this economy rating is based upon, e.g. vehicle travelling for 400 km on asphalt roads at 100km/hr. | |
| 55 | 1.2.2 | Occupant Requirements | | | | | | | Heading | | |
| 56 | 1.2.2-01 | The noise levels inside the UV-M/L will not exceed safe levels for short and long term exposure, during normal operation. | No occupant is exposed to noise above the following levels: (a) a noise exposure level, LAeq, 8h, of 85 dB(A); and (b) a peak noise level, Lpeak, of 140 dB. | N/A. | M | M | Certification | NZ Health and Safety in Employment Regulations 1995: Draft Code of Practice for the Management of Noise in the Workplace. This is measuring the noise generated by the vehicle and Note: 85dB(A) refers to the Average over an 8Hr day, with a 16 Hr recovery, not a Max. | Requirement | Describe, or provide, any environmental testing outcomes that demonstrate compliance to the requirement, noting assumptions/conditions under which this testing was carried out. | |
| 57 | 1.2.2-02(a) | The UV-M/L Driver, Co-driver compartment, rear compartments and pods, and the task functions within the compartments shall be designed to permit safe physical operation. | Safe operation can be undertaken by personnel within the 5th to 95th percentile of both gender NZDF personnel. | See 1.2.2-02(b) for Objective target measure. | K | K | Analysis | - Complying with Mission Profile Annex B and NZDF Anthropometric Data Annex E. Note that 25 mm needs to be added to all heights (sitting and standing) quoted in Annex E, to account for personnel wearing regulation issue helmets. - Safe operation also includes the following activities: Open/close door; Occupy seat, Fit/release safety belt, Operate vehicle controls, Drive vehicle, Stow personnel's weapon, Non drivers holding and firing personnel weapon out of vehicle, Stow, fit and operate night vision goggles, Communicate with integrated comms equipment, Stow and recover personal equipment, Brace during rollover, Escape vehicle during fording/amphibious activities and fight internal fires. - This includes capability to operate in a 'degraded/dirty' environment wearing current in-service PSI/PPE, i.e. in-service Respirator Nuclear-Biological-Chemical, Chemical-Biological Smock, Trousers, Footwear Covers and Gloves, Body Armour, Helmet, Personal Floatation Device and webbing. Annex G has a list of what clothing will be worn with what. - Complying with DEFSTAN 00-035 Environmental Handbook for Defence Materiel. | Requirement | Please describe any design considerations, modelling or tests/demonstrations, that support compliance to this requirement. If available, support this with diagrams and/or photographs (including dimensions). | |

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| Serial num | Rqmt. No. | System Requirement or Constraint | Minimum Requirement (Measure of Performance (MoP) Threshold) | Objective (exceeds Threshold) | UV-M Priority | UV-L Priority | Verification Method | Remarks | Object Type | EVIDENCE / RESPONSE REQUIRED |
|------------|---------------|--|---|---|---------------|---------------|---------------------|---|-------------|---|
| 58 | 1.2.2-02(b) | Mandatory requirement 1.2.2-02(a) was "The UV-M/L Driver and Co-driver compartment, rear compartments and pods and the task functions within the compartments should be designed to permit safe physical operation". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. Additionally, proposed solutions exceeding the threshold for requirement for 1.2.2-02 will be evaluated as follows - The UV-M/L Driver and Co-driver compartment, rear compartments and pods and the task functions within the compartments shall be designed to permit safe physical operation for a wider group of personnel. | See 1.2.2-02(a) requirement | Safe operation can be undertaken by personnel within the 3rd to 5th, and 95th to 97th percentile of both gender NZDF personnel. | 1 | 1 | Analysis | - Complying with Mission Profile Annex B and NZDF Anthropometric Data Annex E. Note that 25 mm needs to be added to all heights (sitting and standing) quoted in Annex E, to account for personnel wearing regulation issue helmets. - Safe operation also includes the following activities: Open/close door; Occupy seat, Fit/release safety belt, Operate vehicle controls, Drive vehicle, Stow personnel's weapon, Non drivers holding and firing personnel weapon out of vehicle, Stow, fit and operate night vision goggles, Communicate with integrated comms equipment, Stow and recover personal equipment, Brace during rollover, Escape vehicle during fording/amphibious activities and fight internal fires. - This includes capability to operate in a 'degraded/dirty' environment wearing current in-service PSI/PPE, i.e. in-service Respirator Nuclear-Biological-Chemical, Chemical-Biological Smock, Trousers, Footwear Covers and Gloves, Body Armour, Helmet, Personal Floatation Device and webbing. Annex G (for 1.2.2-07) has a table for what will be worn with what. - Complying with DEFSTAN 00-035 Environmental Handbook for Defence Materiel. | Requirement | Please describe any design considerations, modelling and tests/demonstrations that support compliance to this requirement. If available, support this with diagrams and/or photographs (including dimensions). |
| 59 | 1.2.2-03 | The UV-M/L ride quality, when driven in accordance with the Mission Profile, shall not cause either short or long term injury to any of the occupants, due to shock or vibration generated by the vehicle or the road surface. | When tested complies with MIL-STD-1472H 2020 5.5.5 Vibration and shock. | | K | K | Design Review | Should the contractor not meet the threshold standard for vibration and shock, but believes that can meet the intent of the requirement, they are invited to provide engineering documentation to support an alternative means of compliance against the requirement. | Requirement | Describe how your proposed solution(s) minimises shock and vibration that could impact the long term health of the occupants (e.g. suspension characteristics that minimise shock & vibration, frame flexibility, tyre characteristics, seat characteristics). Discuss relevant design features and results of any tests conducted. |
| 60 | 1.2.2-04 | The UV-M/L ride quality, when driven in accordance with the Mission Profile, should not reduce the performance of the occupants or cause fatigue to the occupants due to shock and vibration generated by the vehicle or the road conditions. | When tested complies with MIL-STD-1472H 2020 5.5.5 Vibration and shock. | | 1 | 1 | Analysis | Should the contractor not meet the threshold standard for vibration and shock, but believes that can meet the intent of the requirement, they are invited to provide engineering documentation to support an alternative means of compliance against the requirement. | Requirement | Describe how your proposed solution(s) minimise shock and vibration that could fatigue the occupants (e.g. suspension characteristics that minimise shock & vibration, frame flexibility, tyre characteristics, seat characteristics). Discuss relevant design features and results of any tests conducted. |
| 61 | 1.2.3 | Transportation | | | | | | | Heading | |
| 62 | 1.2.3-01(a) | The UV-M/L shall be able to be prepared for deployment by sea, air and land and comply with STANAG 4062 Slings and Tie-down Facilities for Lifting and Tying Down Military Equipment for Movement by Sea and Land. | Comply with STANAG 4062. | See 1.2.3-01(b) for Objective target measure | K | K | Trial | Further details can be found in Annex G. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved and any tests undertaken that demonstrate this. |
| 63 | 1.2.3-01(b) | Key requirement 1.2.3-01(a) was "The UV-M/L shall be able to be prepared for deployment by sea, air and land and comply with STANAG 4062 Slings and Tie-down Facilities for Lifting and Tying Down Military Equipment for Movement by Sea and Land". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The UV-M/L may also meet NZ Maritime requirements for transport by sea. | See 1.2.3-01(a) requirement. | Comply with NZ Maritime requirements in NZ Army LEMEI NZ P98, B259-20, Issue 5, Jul 20 (3). | 3 | 3 | Certification | NZ Maritime requirements/rules are described in NZ Army Land Equipment Maintenance Engineering Instruction (LEMEI) NZ P98, B259-20, Issue 5, Jul 20. This notes that tie down points need to be identified by a different colour, and the decals required to more easily identify fixing points. Further details can be found in Annex G. | Requirement | Please indicate (or not) if you will paint the tie down points a different colour and put on decals in accordance with the 'Objective' Reference. |
| 64 | 1.2.3.1 | By Sea | | | | | | | Heading | |
| 65 | 1.2.3.1-01(a) | The UV-M/L shall be transportable by the NZ civilian interisland roll-on/roll-off ferry service. | The Mission prepared (i.e. combat laden) UV-M/L complies with NZS 5444:2005. | | K | K | Certification | Annex G has additional information on NZS 5444:2005. Also note requirement 1.2.3-01(b). | Requirement | Please confirm compliance with standard. |
| 66 | 1.2.3.1-01(b) | The UV-M/L shall be transportable by the HMNZS CANTERBURY. | The Mission prepared (i.e. combat laden) UV-M/L shall be able to be loaded, transported and unloaded onto and off the HMNZS CANTERBURY vehicle deck using the stern, side ramp and crane. UV-M/L payload up to GVM. | See 1.2.3.1-01(b) for Objective target measure | K | K | Certification | Complying with STANAG 4062 and NZS 5444:2005. Annex G has additional information on this. | Requirement | Please describe any design considerations, modelling and tests/demonstrations that supports compliance to this requirement. If available, support this with diagrams and/or photographs (including dimensions). |

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| Serial num | Rqmt. No. | System Requirement or Constraint | Minimum Requirement (Measure of Performance (MoP) Threshold) | Objective (exceeds Threshold) | UV-M Priority | UV-L Priority | Verification Method | Remarks | Object Type | EVIDENCE / RESPONSE REQUIRED | |
|------------|---------------|--|--|--|---------------|---------------|---------------------|--|----------------|---|--|
| 67 | 1.2.3.1-01(c) | Key requirement 1.2.3.1-01(b) was "The UV-M/L shall be transportable by the HMNZS CANTERBURY". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The UV-M/L may be transportable on other than the HMNZS CANTERBURY and NZ civilian interisland roll-on/roll-off Ferry service. | See 1.2.3.1-01(b) requirement. | Can transport UV-M/L on other maritime assets besides HMNZS CANTERBURY. | 3 | 3 | Certification | Complying with STANAG 4062 and NZS 5444:2005. Annex G has additional information on this. | Requirement | Please provide examples on the type of ships that are able to load and offload your proposed vehicles. | |
| 68 | 1.2.3.1-02(a) | The UV-M/L shall be deployable by the HMNZS CANTERBURY Landing Craft Medium (LCM). | HMNZS CANTERBURY LCM Beach disembarkation up to 750mm depth with minimal preparation. | See 1.2.3.1-02(b) for Objective target measure. | K | K | Certification | Note it is not intended for these to be specialist amphibious vehicles. Complying with DEF STAN 23-06 and DEF STAN 00-006 | Requirement | Please describe any design considerations (e.g. Ramp over angles, point loading and lifting considerations), modelling and tests/demonstrations that supports compliance to this requirement. If available, support this with diagrams and/or photographs (including dimensions). | |
| 69 | 1.2.3.1-02(b) | Key requirement 1.2.3.1-02(a) was "The UV-M/L shall be deployable by the HMNZS CANTERBURY Landing Craft Medium (LCM)". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The UV-M/L could be deployable by coalition (ABCANZ) Amphibious Forces. | See 1.2.3.1-02(a) requirement. | Can embark and disembark from Coalition Amphibious Forces, with minimal preparation or adjustment. | 2 | 2 | Certification | Note it is not intended for these to be specialist amphibious vehicles. | Requirement | Please describe any design considerations (e.g. Ramp over angles, point loading and lifting considerations), modelling and tests/demonstrations that supports compliance to this requirement. If available, support this with diagrams and/or photographs (including dimensions). | |
| 70 | 1.2.3.2 | By Land | | | | | | | Heading | | |
| 71 | 1.2.3.2-03 | The UV-M/L could be capable of being transported on the NZ railway system. | Complying with NZ Rail dimensions. | N/A | 2 | 2 | Analysis | NZ rail dimensions are described in Annex G. | Requirement | Please advise if any analysis has been done to check compliance with NZ railway dimensions. | |
| 72 | 1.2.3.3 | By Air | | | | | | | Heading | | |
| 73 | 1.2.3.3-01(a) | The UV-M may be transportable in the Medium Range Transport (MRT) aircraft (Lockheed C-130 Hercules) with appropriate preparation. | One UV-M in RNZAF C-130 J (NZ) with less than 2 hours preparation to the vehicle at air portable weight. | Two UV-M or combination of UV-M and UV-L in RNZAF C-130 J (NZ) with less than 1 hour preparation to the vehicle at GVM. | 3 | N/A | Demonstration | 1. For C-130 the vehicle must comply with all the specifications outlined within NZAP 6085.001-4 Leaflet A1 General, Leaflet A2 Aircraft Specifications, Leaflet A3 Equipment Specifications. 2. STANAG 3548. - See Annex G for further details. | Requirement | Please provide any analysis that you have undertaken to confirm compliance with this requirement (using words, diagrams, and/or photographs) and any tests undertaken that demonstrate this. | |
| 74 | 1.2.3.3-01(b) | The UV-L should be transportable in the Medium Range Transport (MRT) aircraft (Lockheed C-130 Hercules) with appropriate preparation. | One UV-L in RNZAF C-130 J (NZ) with less than 2 hours preparation to the vehicle at air portable weight. | Two UV-L or combination of UV-M and UV-L in RNZAF C-130 J (NZ) with less than 1 hour preparation to the vehicle at air portable weight. | N/A | 1 | Demonstration | 1. For C-130 the vehicle must comply with all the specifications outlined within NZAP 6085.001-4 Leaflet A1 General, Leaflet A2 Aircraft Specifications, Leaflet A3 Equipment Specifications. 2. STANAG 3548. - See Annex G for further details. | Requirement | Please provide any analysis that you have undertaken to confirm compliance with this requirement (using words, diagrams, and/or photographs) and any tests undertaken that demonstrate this. | |
| 75 | 1.2.3.3-02 | Any components removed from the UV-M/L during preparation for transportation on Military aircraft could be capable of being carried on the same aircraft as the UV-M/L. | RNZAF C-130 J (NZ) with less than 2 hours preparation to the vehicle at air portable weight. | RNZAF C-130 J (NZ) with less than 1 hour preparation to the vehicle at air portable weight. | 2 | 1 | Demonstration | 1. For C-130 the vehicle must comply with all the specifications outlined within NZAP 6085.001-4 Leaflet A1 General, Leaflet A2 Aircraft Specifications, Leaflet A3 Equipment Specifications. 2. STANAG 3548. - See Annex G for further details. | Requirement | Please provide any analysis that you have undertaken and components required to be removed, including times to be removed, to confirm compliance with this requirement (using words, diagrams, and/or photographs) and any tests undertaken that demonstrate this. | |
| 76 | 1.2.3.3-03 | The UV-L may be transportable by the Medium Utility Helicopter (MUH) (NH90 TNZA) with appropriate preparation. | RNZAF NH90-TNZA (NZ) as underslung load with less than 2 hours preparation to the vehicle at less than 3000kg (max underslung load). | | N/A | 3 | Demonstration | Could also be lifted by Coalition Forces Heavy Helicopter ie RAAF CH 47F. | Requirement | Please provide any analysis and modelling you have undertaken to confirm compliance with this requirement (using words, diagrams, and/or photographs) and any tests undertaken that demonstrate this. Acceptable solutions include weight removal (e.g. removing doors, etc.) to enable the lift. | |
| 77 | 1.2.3.3-04 | The UV-M/L should be operational after transport by air. | Prepared by a maximum of two personnel in less than 2 hours without specialist tools or specialist personnel. | N/A | 1 | 1 | Demonstration | This requirement is only applicable if the requirement(s) for air transport are achieved. | Requirement | Please describe activities, and time required, to prepare the proposed vehicles for operational activity post transport by air. | |
| 78 | 1.2.4 | Towing | | | | | | | Heading | | |

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| Serial num | Rqmt. No. | System Requirement or Constraint | Minimum Requirement (Measure of Performance (MoP) Threshold) | Objective (exceeds Threshold) | UV-M Priority | UV-L Priority | Verification Method | Remarks | Object Type | EVIDENCE / RESPONSE REQUIRED |
|------------|-------------|--|---|---|---------------|---------------|---------------------|--|-------------|---|
| 79 | 1.2.4-01 | The UV-M/L should be fitted with a towing pintle at the rear of the vehicle. | 1. Complying with: a. STANAG 4101. b. STANAG 4007. 2. Towing pintle at the rear of the vehicle positioned in accordance with Serial 1. (above) 3. Installation of 12 pin 24 V NATO electrical trailer socket. | | 1 | 1 | Inspection | Wiring standard is provided in Annex G. Trailers: a. All UV-M/L to be able to tow a general cargo trailer. b. UV-M/L Command Post should be capable to tow a light trailer carrying a generator and CP shelter/ infrastructure to extend the capacity of the Command Post when operating in a static position. NZ regulations require: - Certification of the towing pintle, on all vehicles over 3500kg, by an approved Heavy Vehicle Certifier in accordance with the NZ standard 5446:1987 Code of Practice for Heavy Vehicle Towing connections. | Requirement | Please provide technical details (including tow pintle rating, vehicle Gross vehicle mass(GVM), Gross combination mass(GCM)), analysis and/or photographs/diagrams to demonstrate compliance with this requirement. |
| 80 | 1.2.4-02 | The UV-M/L should be capable of towing in-service light trailers and L119 Light Gun. | 1. Flat tow the NZ Army in-service L119 Light Gun. 2. Flat tow light trailer of up to 3500kg (including CCPOE trailer). | | 1 | 3 | Analysis | In-service trailer is fitted with independent mechanical override brakes. See Annex G for details of trailer and Light Gun. | Requirement | Please provide technical details (e.g. vehicle tow pintle rating, Gross vehicle mass(GVM), Gross combination mass(GCM)). |
| 81 | 1.2.5 | Recovery | | | | | | | Heading | |
| 82 | 1.2.5-02(a) | The UV-M should have the capability to tow another vehicle with a Gross Vehicle Mass (GVM) equal to the GVM of the towing UV-M legally on NZ public roads, and off-road. | 1. Complying with Mission Profile Annex B. 2. The UV-M should be capable of achieving certification from a NZ Heavy Vehicle certifier, for a maximum towed mass of the vehicle's GVM. | N/A. | 1 | 1 | Certification | NZ regulations require: 1. Certification of the towing pintle on all vehicles over 3500kg, by an approved Heavy Vehicle Certifier in accordance with the NZ standard 5446:1987 Code of Practice for Heavy Vehicle Towing connections. 2. Use of an A-Frame or Straight bars when towing on a public road. | Requirement | Please provide technical details in regards to tow pintle rating, vehicle GVM and GCM. Additionally any information on "preparation to tow" time required would be useful. |
| 83 | 1.2.5-02(b) | The UV-L should have the capability to tow another vehicle with a tare weight equal to the tare weight of the towing UV-L legally on NZ public roads. | 1. Complying with Mission Profile Annex B. 2. The UV-L [if under 3500kg] is rated by the Contractor to tow a braked mass equivalent to its tare weight. | N/A. | N/A | 1 | Certification | If the UV-L has a GVM greater than 3500kg, it will be classified as a heavy vehicle, and therefore 1.2.5-02(a) measure of performance, and remarks, will apply. | Requirement | Please provide technical details in regards to tow pintle rating and/or tow rating, vehicle GVM and GCM. Additionally any information on "preparation to tow" time required, would be useful. |
| 84 | 1.2.5-03 | The UV-M/L could be able to be flat towed, with limited preparation, without damage to the engine, drive line components or the brakes in accordance with the procedures of NZDF in-service and any other specified recovery vehicles. | 1. The UV-M/L should be prepared for flat towing from either the front or rear using a recovery wire rope/strop, straight bar or an A-frame with minimal automotive preparation i.e. 2 persons using tools contained in CES in not more than 10 minutes. 2. Towed for minimum of 50 km with limited preparation. | 100 km or greater (before further preparation required by maintenance personnel). | 2 | 2 | Demonstration | 1. The use of a recovery wire/strop is for short duration in extenuating circumstances, typically offroad. 2. The A-frame (or straight bar) could be fixed to front and rear towing/recovery points (on the vehicle being towed) in multiple ways. 3. Note STANAG 4478 provides guidance on front and rear recovery points. | Requirement | Please confirm compliance (or not) with requirement. Please advise of any preparation required to flat tow. Please provide details of front and rear towing/recovery points, and their tow ratings. |
| 85 | 1.2.5-04 | Ability to roll (or tow) start the UV-M/L. | Can roll (or tow) start vehicle with preparation | Can roll (or tow) start vehicle without preparation. | 2 | 2 | Demonstration | | Requirement | Please outline options for starting your proposed vehicle(s) if battery low/flat. |
| 86 | 1.2.5-05 | The UV-M/L could be able to be suspended and supported towed, forward and reverse, with preparation taking not greater than 60 minutes, for distances up to 50 km, without damage to any component when lift towed. | Towed for minimum of 50 km with less than 60 min preparation. | No preparation required for distances up to 50km. | 2 | 2 | Demonstration | | Requirement | Please provide details on "preparation to tow" time required and confirmation that requirement can be met. |
| 87 | 1.2.6 | Self Recovery | | | | | | | Heading | |
| 88 | 1.2.6-01 | All UV-M/Ls should be capable of being fitted with a winch capable of recovering a similar weight Combat-Laden UV-M/L, operated from inside the vehicle. | The UV-M/L should have all required fittings to enable a winch, with installation kit, to be fitted (fitted for but not with). | | 1 | 1 | Analysis | Must include provision to mount a switch for a winch operable by driver. | Requirement | Please provide options for fitting a winch. If available, support this with diagrams and/or photographs(including dimensions). |

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| Serial num | Rqmt. No. | System Requirement or Constraint | Minimum Requirement (Measure of Performance (MoP) Threshold) | Objective (exceeds Threshold) | UV-M Priority | UV-L Priority | Verification Method | Remarks | Object Type | EVIDENCE / RESPONSE REQUIRED | |
|------------|---------------------|--|---|--|---------------|---------------|---------------------|---|-------------|---|--|
| 89 | 1.2.6-02 - 1.2.6-08 | When Contractor-fitted, the winch should have, at a minimum, the characteristics outlined in the Measure of Performance UV-M/L. | The Winch to meet the following requirements: - not less than 30m minimum useable length, with at least four wraps of winch cable remaining on the bare winch drum - manually operated braking mechanism, which holds not less than winch rating (maximum load) - front winching operations are controlled by the Driver from inside the vehicle cab - the winch rating could be not less than that calculated for max GVM (GVM/2+25%) - the winch could enable free-spool - a guide system that enables the winch cable to be pulled at up to 15 degrees either size of horizontal, and 45 degrees vertical. | The Winch is to meet some, or all, of the following requirements: - the winch cable is greater than 50 m, with at least four wraps of winch cable remaining on the bare winch drum - preference is for an eyelet, rather than a hook, on the end of the cable - controlled from inside the cab, and remotely from the vehicle - has an overload protection device which prevents the cable load exceeding the rated pull by more than 10 percent - a powered winch out - automatically activated braking mechanism, which holds not less than winch rating (maximum load) - a guide system that enables the winch cable to be pulled at wider angles (e.g. greater than 15 degrees either size of horizontal, and 45 degrees vertical). | 2 | 2 | analysis | | Requirement | Please provide winch options including technical details that support compliance to this requirement. If available, support this with diagrams and/or photographs(including dimensions). | |
| 90 | 1.2.7 | Lubricants and Allied Products | | | | | | | | Heading | |
| 91 | 1.2.7-01(a) | The UV-M/L shall be capable of running on a range of fuels. | The vehicle shall be capable of using the following fuels with sulphur levels not exceeding 500ppm: a. Aviation turbine kerosene (AVTUR) F-34 (JP-8), F-35 and (AVCAT) F-44 (JP-5); b. Military Diesel Oil NATO F-54 and F-76; | See 1.2.7-01(b) for objective | K | K | Certification | If an engine less than the Euro 5 standard is proposed, it will require the Contractor to get dispensation for emissions from NZTA (see 1.2.1.5-01). Less than Euro 3 standard is not acceptable. | Requirement | Please provide technical details and any test results that support compliance to this requirement. Validation of fuels may be alternately via physical tests or analysis. | |
| | 1.2.7-01(b) | The UV-M/L shall be capable of running on a range of fuels. | See 1.2.7-01(a) for minimum | The vehicle shall be capable of using the following fuels: c. Civilian diesel fuel per Schedule 2 of New Zealand Engine Fuel Specifications Regulations 2011 (SR 2011/352) and EN 590:2022. | 1 | 1 | Certification | Civilian diesel fuel per SR 2011/352 and EN 590:2022 both permit up to 7% of biofuel (Fatty Acid Methyl Ester (FAME)). | Requirement | Please provide technical details and any test results that support compliance to this requirement. Validation of fuels may be alternately via physical tests or analysis. | |
| 92 | 1.2.7-02 | The UV-M/L may comply with NATO STO developments in respect of the introduction of Future Fuel Technology. | The vehicle could be capable of running future alternative fuels including blended fuel, with modification. | The vehicle could be capable of running future alternative fuels including blended fuel, with no modification. | 3 | 3 | Analysis | | Requirement | Please describe what research, development and/or testing (if any) you have done (or plan to) in regards to the introduction of future fuel technology for your proposed solution(s). For instance the recommendations in NATO STO - Science and Technology Organisation Report on Biodiesel, Mil Guidance MIL-HDBK-510. | |
| 93 | 1.2.8 | Decontamination and Cleaning | | | | | | | | Heading | |
| 94 | 1.2.8-01 | The UV-M/L could be designed to the maximum extent possible so that there are no recesses where water may collect and cause corrosion following any of the decontamination or cleaning processes. | If recesses do exist in UV-M/L design, must include method to drain any collected water. | | 2 | 2 | Inspection | If recesses do exist in UV-M/L design, must include method to drain any collected water. | Requirement | Please describe any design considerations and technical details that support compliance to this requirement. And any options you can provide in this area. If available, support this with diagrams and/or photographs. | |
| 95 | 1.2.8-02 | The exterior of the UV-M/L could be capable of undergoing a decontamination process, which includes the use of high-pressure water jets, without causing damage to any component exposed to the water jet, except sealing faces, electrical items, or apertures. | Water Jet pressure no less than 150 bar. | Water Jet pressure up to 250 bar. | 2 | 2 | Demonstration | - All external electrical connectors to be IP 56 - to enable cleaning to meet MPI and AQIS Imported Vehicle and Equipment standard (Cleaning) - also complying with extant NZ Army decontamination processes (see Annex G). | Requirement | Please confirm (or not) whether your solution can meet the Requirement and/or Objective measures. Please note options you can provide in this area (if any). | |
| 96 | 1.2.8-03 | The interior of the UV-M/L could be capable of undergoing a decontamination process without causing damage. | Complying with NZ Army decontamination processes and quoted standards. | | 2 | 2 | Analysis | - To enable cleaning to meet MPI and AQIS Imported Vehicle and Equipment standard (cleaning) - also complying with extant NZ Army decontamination processes (see Annex G). | Requirement | Please confirm (or not) whether your solution can meet the Requirement. Please note options you can provide in this area (if any). | |

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| Serial num | Rqmt. No. | System Requirement or Constraint | Minimum Requirement (Measure of Performance (MoP) Threshold) | Objective (exceeds Threshold) | UV-M Priority | UV-L Priority | Verification Method | Remarks | Object Type | EVIDENCE / RESPONSE REQUIRED |
|------------|-----------|--|--|---|---------------|---------------|---------------------|---|-------------|---|
| 97 | 1.2.8-05 | The engine bay of the UV-M/L may be capable of undergoing a cleaning process, without removal of Major Unit Assemblies which includes the use of a mains pressure hose, without causing damage. | Mains hose pressure 600 - 1100kPa. | | 3 | 3 | Demonstration | - To enable cleaning to meet MPI and AQIS Imported Vehicle and Equipment standard (cleaning) - also complying with NZ Army decontamination processes (see Annex G). | Requirement | Please confirm (or not) whether your solution can meet the Requirement. Please note options you can provide in this area (if any). |
| 98 | 1.3 | VEHICLE PERFORMANCE (Common to all variants) | | | | | | | | |
| 99 | 1.3.1 | Capacity | | | | | | | | |
| 100 | 1.3.1-01 | The UV-M/L should have sufficient fuel storage capacity to complete a 24-hour battlefield mission without resupply. | Sufficient fuel to sustain a 24 hour mission (Battlefield Day) as outlined in Annex B. | Sufficient fuel to sustain a 48 hour mission (based on 2x Battlefield Days) as outlined in Annex B. | 1 | 1 | Trial | May include use of externally stowed NZ 20 litre fuel can. See Annex G. | Requirement | Please confirm (or not) that you can meet the Requirement Measure. Please tell us (including options, if any) how you will satisfy this requirement, e.g. How many externally stowed fuel tanks can be carried and where?; What is your fuel and auxiliary tank total capacity?; What is the vehicle's fuel consumption Km/L (fully laden)? |
| 101 | 1.3.1-02 | The UV-M/L should have a capacity to carry, without damage or degradation, the personnel and Complete Equipment Schedule (CES) required to allow the vehicle and the embarked personnel to carry out their role. | Sufficient capacity for a 24 hour mission (Battlefield Day) as outlined in Annex B. | Sufficient capacity for a 48 hour mission (based on 2x Battlefield Days) as outlined in Annex B. | 1 | 1 | Demonstration | UV CES is described in Annex G. | Requirement | Please state the carrying capacity of your proposed vehicles and confirm (or otherwise) this is sufficient to meet 24 (or optionally 48 hour mission), as per mission profile in Annex B and payloads in Annex C. |
| 102 | 1.3.2 | Power To Weight Ratio | | | | | | | | |
| 103 | 1.3.2-01 | The Combat-Laden UV-M, or UV-L, should have a power to weight ratio as stated. | Not less than 19 kW/Tonne, compliant with standard at Improved Medium Mobility. | Better than 19 kW/Tonne. | 1 | 1 | Certification | Dependant on Mobility Class compliant with DEFSTAN 23-006 and compliant with environmental standards in SR 1.1.1-04 (including Altitude). Should the contractor not meet the threshold standard for power to weight ratios, but believes they can meet the intent of the requirement they are invited to provide engineering documentation to support an alternative means of compliance against the requirement. | Requirement | Please tell us the Power to Weight ratio of the heaviest variant (for each engine power category if any variance in engine sizes). |
| 104 | 1.3.3 | Speed | | | | | | | | |
| 105 | 1.3.3-01 | The Combat-Laden UV-M/L could be capable to accelerate in the forward direction to 50 km/h (dash) as stated. | 0 km/h to 50 km/h in less than 11 seconds on a level surfaced track. | Better than MOP Threshold with 0 km/h to 50 km/h in less than 9 seconds on a level surfaced track. | 2 | 2 | Test | Complying with environmental standards in SR 1.1.1-04. | Requirement | Please confirm whether (or not) your solution meets (or exceeds) this requirement's threshold. |
| 106 | 1.3.3-04 | At GVM, the UV-M should be capable of maintaining a max speed (exclusive of rest or fuel stops) on level dry roads of not less than 90 km/h. | 90 km/h. | 100 km/h. | 1 | N/A | Test | Complying with environmental standards in SR 1.1.1-04. | Requirement | Please confirm whether (or not) your solution meets (or exceeds) this requirement's threshold. |
| 107 | 1.3.3-05 | At GVM, the UV-L should be capable of maintaining a speed of not less than 100 km/h (exclusive of rest or fuel stops) on level dry bitumen road without wind assistance. | 100 km/h. | 105 km/h. | N/A | 1 | Test | Complying with environmental standards in SR 1.1.1-04. | Requirement | Please confirm whether (or not) your solution meets (or exceeds) this requirement's threshold. |
| 108 | 1.3.3-06 | The Combat-Laden UV-M/L could be capable to achieve and sustain a reverse speed as stated. | 20 km/h on a level surfaced road in 10 seconds for a period of 20 seconds. | Better than MOP Threshold, 30 km/h on a level surfaced road in 7 seconds for a period of 20 seconds. | 2 | 2 | Trial | Complying with environmental standards in SR 1.1.1-04. | Requirement | Please confirm whether (or not) your solution meets (or exceeds) this requirement's threshold. |
| 109 | 1.3.3-07 | The Combat-Laden UV-M/L, on reaching a standstill, could change from a forward to reverse movement or vice versa in the time as stated. | 3 seconds. | Better than MOP Threshold, within 2 seconds. | 2 | 2 | Trial | Complying with environmental standards in SR 1.1.1-04. | Requirement | Please confirm whether (or not) your solution meets (or exceeds) this requirement's threshold. |
| 110 | 1.3.5 | Gradients/ Obstacles | | | | | | | | |
| 111 | 1.3.5-01 | The UV-M/L with Combat Load shall be capable of negotiating a dry concrete gradient of 60 percent (i.e. 30 degrees) in the forward and reverse directions. | Gradient of 60 percent in the forward and reverse directions. | N/A | K | K | Trial | Combat load (payload) is defined in Annex C. | Requirement | Please provide technical data and/or test results that support compliance to this requirement. If available, support this with diagrams and/or photographs. |
| 112 | 1.3.5-02 | When negotiating a 60 percent grade, the UV-M/L with Combat Load should be capable of coming to a complete halt, stopping the engine and restarting it, and proceeding on up the grade. | Gradient of 60 percent in the forward and reverse directions. | N/A | 1 | 1 | Trial | Combat load (payload) is defined in Annex C. | Requirement | Please provide technical data and/or test results that support compliance to this requirement. If available, support this with diagrams and/or photographs. |
| 113 | 1.3.5-03 | The Combat-Laden UV-M/L should be stable when tilted transversely. | 1. The vehicle should pass the tilt table platform angle test in either transverse direction of 33 degrees, including an engine stop and restart. 2. The vehicle is to be weighted to GVM. 3. To prevent fuel leakage fuel tank(s) may be not more than 10 percent under full. | Better than MOP Threshold but: 1. At 35 degrees. 2. In all load states including with trailer attached. | 1 | 1 | Trial | Complying with DEFSTAN 23-006, Table B2 < 4t Payload | Requirement | Does your vehicle comply with this requirement (at the most unfavourable combination of payload and variant design)? Can it do better? Please provide technical data and/or test results that support this. If available, support this with diagrams and/or photographs. |

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| Serial Number | Rqmt. No. | System Requirement or Constraint | Minimum Requirement (Measure of Performance (MoP) Threshold) | Objective (exceeds Threshold) | UV-M Priority | UV-L Priority | Verification Method | Remarks | Object Type | EVIDENCE / RESPONSE REQUIRED |
|---------------|-------------|--|---|---|---------------|---------------|---------------------|--|-------------|--|
| 114 | 1.3.5-04(a) | The Combat-Laden UV-M/L shall be capable of fording fresh and salt water obstacles to 750mm depth with minimal preparation. | 1. Fording 750 mm deep with not more than 5 minutes preparation, at maximum GVM. 2. Forward and reverse. 3. Vehicle does not lose contact with the ground. 4. No adverse effects to the vehicle after 10 minutes without engine running at a depth of 750 mm. 5. Must be able to restart engine and drive off (forward and reverse) after the 10 minutes. 6. Towing a trailer. | See 1.3.5-04(b) for Objective target measure. | K | K | Trial | Complying with DEFSTAN 23-006, Table B2 < 4t Payload. Ability to conduct prepared fording to at least 750mm by use of an 'add on' waterproofing kit. | Requirement | Does your vehicle comply with this requirement (at the most unfavourable combination of payload and variant design)? |
| 115 | 1.3.5-04(b) | Key requirement 1.3.5-04(a) was "The Combat-Laden UV-M/L shall be capable of fording fresh and salt water obstacles to 750mm depth with minimal preparation". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The Combat-Laden UV-M/L should be capable of an increased fording depth greater than 750mm with minimal preparation. | See 1.3.5-04(a) requirement. | 1. Greater than 750mm deep water fording (at maximum GVM) with no more than 15 minutes preparation. 2. Vehicle may have permanent deep fording provisions. 3. Forward and reverse. 4. Vehicle does not lose contact with the ground. 5. Not towing a trailer. | 1 | 1 | Trial | Complying with DEFSTAN 23-006, Table B2 < 4t Payload. Ability to conduct prepared fording to a depth greater than 750mm by use of an 'add on' waterproofing kit. | Requirement | If available, support this with diagrams and/or photographs. Specify the fording depth that your vehicle achieves and identify any differences in variants. Please tell us about any 'add on' options you have for increasing fording depth, any additional maintenance requirements and the additional cost. [costed option] |
| 116 | 1.3.5-05 | The UV-M/L sealing could prevent the ingress of water into lockers and in the interior of the vehicle, when the vehicle is in motion, fording or being cleaned or decontaminated in accordance with Decontamination and Cleaning process. | Water ingress rating of IPX5, complying with stated standard. | Water ingress rating of IPX6, complying with stated standard. | 2 | 2 | Demonstration | Standard ISO 20653:2013 Road Vehicles - IP Code - Protection of electrical equipment against foreign objects, water and access. | Requirement | What is the IPX Rating of the doors, lockers and interior of the vehicles? |
| 117 | 1.3.5-06 | The Combat-Laden UV-M/L could overcome a hard vertical step forward and reverse without suffering permanent distortion or a mission relevant failure. | At least 260 mm, complying with stated standard. | Over 400 mm, complying with stated standard. | 2 | 2 | Trial | Complying with DEFSTAN 23-006, Table B2 < 4000kg Payload. Being able to complete Battlefield Mission. Excludes towing a trailer in reverse. | Requirement | Please confirm (or not) your proposed vehicles meet the requirement threshold. If your vehicle can overcome a higher vertical step, please tell us the height. Please identify any differences in variants. |
| 118 | 1.3.6 | Clearances | | | | | | | Heading | |
| 119 | 1.3.6-01 | The UV-M/L with Combat Load should have a Ground Clearance as stated. | Minimum of 260 mm ground clearance. | Greater than 260mm ground clearance. | 1 | 1 | Test | Complying with DEFSTAN 23-006, Table B.2 (Payload less than 4 tonne), IMMMLC Being able to complete Battlefield Mission. | Requirement | Please state your vehicles' ground clearances (in mm). |
| 120 | 1.3.6-02 | The Combat-Laden UV-M/L could have an Angle of Approach as stated. | Minimum of 40 degrees. | Greater than 40 degrees. | 2 | 2 | Trial | Complying with DEFSTAN 23-006, Table B.2 (Payload less than 4 tonne), IMMMLC Being able to complete Battlefield Mission. | Requirement | Please state the angle of approach your vehicles can operate effectively at. |
| 121 | 1.3.6-03 | The Combat-Laden UV-M/L could have an Angle of Departure excluding the rear step and towing pintle as stated. | Minimum of 38 degrees. | Greater than 38 degrees. | 2 | 2 | Trial | Complying with DEFSTAN 23-006, Table B.2 (Payload less than 4 tonne), IMMMLC Being able to complete Battlefield Mission. | Requirement | Please state the angle of departure your vehicles can operate effectively at. |
| 122 | 1.3.6-04 | The Combat-Laden UV-M/L could have an Under Vehicle Angle as stated. | Maximum of 155 degrees. | Maximum of 130 degrees. | 2 | 2 | Trial | Complying with DEFSTAN 23-006, Table B.2 (Payload less than 4 tonne), IMMMLC Being able to complete Battlefield Mission. | Requirement | Please state the minimum under-vehicle angle your vehicles can operate at. |
| 123 | 1.3.6-05 | The UV-M/L with Combat Load could be capable of negotiating a ramp between two horizontal planes where the ramp angle is 28 degrees to the horizontal and the length of the ramp is greater than the overall length of the vehicle. | Ramp over angle is not less than 28 degrees to the horizontal. | Ramp over angle is greater than 28 degrees to the horizontal. | 2 | 2 | Analysis | Complying with DEFSTAN 23-006, Table B.2 (Payload less than 4 tonne), IMMMLC, 28 Deg is NZDF LCM actual ramp over angle. | Requirement | Please state the maximum ramp over angle your vehicles can operate at. |
| 124 | 1.3.7 | Mobility | | | | | | | Heading | |
| 125 | 1.3.7-01 | The UV-M/L should be capable of operating on surfaces with a ground pressure as stated. | Should not exceed a Mean Maximum Pressure (MMP) of 350 kPa when carrying a Combat Load. | Better than Threshold with improved performance, not exceeding 280 kPa. | 1 | 1 | Analysis | Complying with DEFSTAN 23-006, table B.2 (Payload less than 4 tonne). May vary dependant on variant and combat load. | Requirement | What is the ground pressure (in kPa) of the heaviest variant? Is a Central Tyre Inflation System (CTIS) or similar required to achieve this result? Please provide technical data and/or test results that support compliance to this requirement. If available, support this with diagrams and/or photographs. Is a CTIS an additional [costed option]? |
| 126 | 1.3.7-02 | The UV-M/L with Combat Load should have off-road mobility as stated. | Mobility rating of IMMMLC, complying with stated reference. | Mobility rating of HMLC, complying with stated reference. | 1 | 1 | Demonstration | Complying with criteria in DEFSTAN 23-006, Table B.2 (Payload less than 4 tonne) [apart from the following criteria: Turning circle, Suspension Bounce, Damping and available bump deflection] | Requirement | Will your vehicles (all variants) comply? To which rating - IMMMLC or HMLC? |
| 127 | 1.3.7.1 | Central Tyre Inflation System (CTIS) | | | | | | | Heading | |
| 128 | 1.3.7.1-01 | The UV-M/L may be fitted with a central tyre inflation system (CTIS) as an option to achieve the required mobility rating. | | | N/A | N/A | | | Info/Advice | |

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|------------|-------------|--|--|---|---------------|---------------|---------------------|--|-------------|--|
| 129 | 1.3.7.1-03 | The UV-M/L may be fitted with a CTIS that is capable of raising and lowering tyre pressure. | Tyres are able to be inflated and deflated using CTIS, via easily accessible controls. | CTIS threshold capability is enhanced with one or more of these features: - CTIS is capable of raising and lowering tyre pressure on the move. - CTIS may incorporate a speed monitoring system which regulates tyre pressure to prevent the tyres from being operated at speeds exceeding the recommended UV-M/L speed for the selected inflation pressure. - The CTIS control panel in the driver's station may enable the driver to select pre-set tyre pressures for predetermined road conditions described in the Battlefield Day. | 3 | 3 | Certification | May be fitted as an option as a means to achieve Mobility especially for Medium Utility Vehicle. | Requirement | If your proposed solutions includes CTIS, please describe the functionality provided. |
| 130 | 1.3.8 | Handling & Stability | | | | | | | Heading | |
| 131 | 1.3.8-01 | The UV-M/L handling could be such that the UV-M/L can be driven safely without loss of control at the limiting speeds defined in the Mission Profile. | Operated by the 95th percentile personnel on terrain and speeds defined in the Mission profile with no observed loss of control. | | 2 | 2 | Certification | | Requirement | Please confirm your vehicle meets the Requirement measure threshold. And where available, support this with test results and technical data. |
| 132 | 1.3.9 | Occupant Safety | | | | | | | Heading | |
| 133 | 1.3.9-01 | The design of the UV-M/L will reduce hazard risks So Far As Is Reasonably Practicable (SFAIRP). | Comply with NZ Land Transport regulations and Health & Safety at Work Act 2015, to the extent that the identified hazards/risks and described safety features are accepted to the satisfaction of NZDF Person Conducting Business or Undertaking (PCBU). | | M | M | Analysis | To support the NZDF in determining land worthiness, ie equipment is safe to operate and can operate safely. Reducing hazard risks SFAIRP should result in practicable hazard elimination, with hazards which are impracticable to eliminate to be controlled or mitigated so that they are acceptable or at least tolerable. | Requirement | Please tell us about the design elements you have incorporated to reduce known hazards SFAIRP, that could impact the safety of personnel operating the vehicle. Please provide examples of safety cases (or equivalent) prepared for other customers. These are to show identified [potential or actual] hazards with the vehicle, and the steps you have taken to reduce them so far as is reasonably practicable. |
| 134 | 1.3.9-02 | The trim and seats inside the UV-M/L may use fire resistant materials which do not ignite, or are self-extinguishing | With a burn rate not exceeding 60 seconds for a distance of less than 51 mm when tested in accordance with SAE J369 Flammability of Polymeric Interior Materials Horizontal. | N/A. | 3 | 3 | Certification | | Requirement | Are the trim and seats in your proposed solutions built using fire resistant material? Does the material meet the threshold condition? What options can you offer with regards to seating, and trim? |
| 135 | 1.3.9-03 | The UV-M/L should be fitted inside with warning labels/ signs in English to advise the occupants of all known significant hazards. | Warnings are restricted to significant hazards with potential serious injury or death as an outcome if the mishap were to occur, i.e. all other hazard controls have failed to reduce the hazard risk enough. | | 1 | 1 | Inspection | Successful contractors will be asked to provide info to support the Safety Case, which is required to support Landworthiness certification. | Requirement | What warning labels are provided for known significant hazards? |
| 136 | 1.3.9-04 | The UV-M/L will not contain asbestos in any components. | No asbestos in any quantity. | | M | M | Analysis | Comply with Ministry of Business, Innovation and Employment (MBIE) - Imports and Exports (Asbestos-containing Products) Prohibition Order 2016. While many countries have tolerances for components if the asbestos content is below a certain level or only present in trace amounts in the raw materials used in manufacture, tolerance levels are not accepted under New Zealand legislation. | Requirement | Please provide certification that there is no asbestos content in your proposed solutions. |
| 137 | 1.3.9-05 | The Contractor should advise NZDF of all materials used inside the UV-M/L which will emit toxic fumes, particles or residue. | Provide a list of all residual hazard risks in a complete hazard log for the design baseline in question. This should cover more than just the material hazards and should explain hazard controls and any warning signs. | | 1 | 1 | Analysis | Contractors should advise of any components containing the likes of mercury, tritium or other radiological or hazardous substances. Also any toxic fumes, particles or residue emitted as a result of UV deterioration, or fire. | Requirement | Please list the hazardous substances and confirm that appropriate hazard controls are in place. |
| 138 | 1.4 | CONSTRUCTION (Common to all variants) | | | | | | Unless otherwise stated in Spec Variant Requirements | Heading | |
| 139 | 1.4.1 | Hull/ Body Structure & Layout | | | | | | | Heading | |
| 140 | 1.4.1-01(a) | The UV-M/L will be fitted with a windscreen washer and wiper system that complies with NZTA Land Transport Rule: Glazing, Windscreen Wipe and Wash and Mirrors, 1999, Section 4. | A Driver-initiated powered system of wipers and washer. | See 1.4.1-01(b) for Objective target measure. | M | M | Certification | Complying with NZTA Land Transport Rule: Glazing, Windscreen Wipe and Wash and Mirrors, 1999 Section 4. | Requirement | Will your vehicles (all variants) comply? (Yes/No) |
| 141 | 1.4.1-01(b) | Mandatory requirement 1.4.1-01(a) was "The UV-M/L will be fitted with a windscreen washer and wiper system that complies with NZTA Land Transport Rule: Glazing, Windscreen Wipe and Wash and Mirrors, 1999, Section 4". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The UV-M/L may additionally be fitted with a deluge pump to clear heavy contamination. | See 1.4.1-01(a) requirement. | The addition of a "deluge pump" to clear heavy contamination. | 3 | 3 | Analysis | | Requirement | Do you offer a deluge pump to clear heavy contamination on the windscreen? |

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|------------|---------------|--|---|--|---------------|---------------|---------------------|---|----------------|--|
| 142 | 1.4.1-02 | The UV-M/L should have means of clearing windscreen condensation. | 1. Vehicle must maintain direct visibility through windows regardless of humidity and vehicle temperature. 2. Windscreen will clear in compliance with EU Regulation 672/2010. | | 1 | 1 | Analysis | | Requirement | Will your vehicles (all variants) comply? Please provide information on options you can offer. |
| 143 | 1.4.1-03(a) | The total width of the UV-M/L shall not be greater than the stated dimension excluding exempt items, e.g. exterior mirrors. | Not more than 3.10 m (with relevant waiver). | See 1.4.1-03(b) Objective target measure. | K | K | Inspection | NZTA Land Transport Rule: Vehicle Dimensions and Mass 2016 and waivers. Excluding wing mirrors. Also links to 1.2.3.2-03 dimensions for Rail movement. Excluding AoA. | Requirement | What is the maximum width of the widest variant? |
| 144 | 1.4.1-03(b) | Mandatory requirement 1.4.1-03(a) was "The total width of the UV-M/L shall not be greater than the stated dimension excluding exempt items, e.g. exterior mirrors". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The total width of the UV-M/L could be less than 2551mm excluding exempt items, e.g. exterior mirrors. | See 1.4.1-03(a) requirement. | A width of not more than 2550mm. | 2 | 2 | Analysis | | Requirement | What is the maximum width of the widest variant? |
| 145 | 1.4.1-04 | The UV-M/L turning circle should not exceed the stated value. | Equal to or less than 20 m kerb to kerb | Equal to or less than 16 m kerb to kerb | 1 | 1 | Trial | | Requirement | What is the largest turning circle of any variant? |
| 146 | 1.4.1-05 | The UV-M/L should provide internal flooring that is non slip (when dry or wet), anti-static, serviceable, cleanable and durable. | Non slip when dry and with spill of light dust or sand. | Non slip when wet and with spill of in-service lubricants. | 1 | 1 | Certification | Health and Safety, comply with AS/NZS 4586:2004. | Requirement | Will your vehicles (all variants) comply? |
| 147 | 1.4.1.1 | Driver's Station | | | | | | | Heading | |
| 148 | 1.4.1.1-01 | The Driver's station shall provide the Driver with sufficient visibility to allow the Driver to operate the UV-M/L safely without the assistance of a Co-driver. | The Driver has suitable visual sight lines to safely drive the UV-M/L by day and night. | Better than MOP Threshold, plus rear view camera and/or DVE/ Eye in the sky. | K | K | Demonstration | Could include Camera system, including Reverse camera for Driver. | Requirement | Please confirm (or not) compliance to this requirement. If available, support this with diagrams and/or photographs. Describe the visibility characteristics of the vehicle and identify any difference between variants. What options can you offer to improve visibility, e.g. rear view camera, DVE/Eye in the sky as [costed options]. |
| 149 | 1.4.1.1-02 | The Driver's station should be designed to enable visibility and operation of all displays and controls for a stated range of personnel, when constrained with a properly adjusted seat belt. | By the 5th to 95th percentile of both gender NZDF personnel. | By the 3rd to 97th percentile of both gender NZDF personnel. | 1 | 1 | Inspection | | Requirement | Do your vehicles (all variants) comply? If available, support this with test results, diagrams and/or photographs. |
| 150 | 1.4.1.1-03 | The driver seat shall be located in the front right hand side of the UV-M/L. | NZTA Land Transport Rule: Steering Systems 2001. | | M | M | Inspection | Section 2.5 of this rule prohibits certification of Left-hand drive vehicles unless waivers are granted. NZDF does not intend to apply for a waiver for the Utility Vehicles. Complying with NZTA Land Transport Rule: Steering Systems 2001. | Requirement | Will your vehicles (all variants) comply? (Yes/No) |
| 151 | 1.4.1.2 | Co-driver's Station | | | | | | | Heading | |
| 152 | 1.4.1.2-01(a) | The UV-M/L Co-drivers shall be provided with a station that gives a view 90 degrees either side of the UV-M/L's longitudinal axis in the forward direction from the UV-M/L Co-driver's seat. | Maximised field of view for seated personnel situated between the 5th to 95th percentile of both NZDF genders. | See 1.4.1.2-01(b) Objective target measure. | K | K | Inspection | Complying with Annex E, NZDF Anthropometric Data. | Requirement | Describe the visibility characteristics of the vehicle and identify any difference between variants. Will your vehicles (all variants) comply? |
| 153 | 1.4.1.2-01(b) | Mandatory requirement 1.4.1.2-01(a) was "The UV-M/L Co-drivers shall be provided with a station that gives a view 90 degrees either side of the UV-M/L's longitudinal axis in the forward direction from the UV-M/L Co-driver's seat". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The UV-M/L Co-drivers, who fit between the 3rd to 5th and 95th to 97th percentile of NZDF personnel (in terms of Anthropometric data) may be provided with a station that gives a view 90 degrees either side of the UV-M/L's longitudinal axis in the forward direction from the UV-M/L Co-driver's seat. | See 1.4.1.2-01(a) requirement. | Maximised field of view for seated personnel situated between the 3rd to 5th and 95th to 97th percentile of both NZDF genders. | 3 | 3 | Inspection | Complying with Annex E, NZDF Anthropometric Data. | Requirement | Will your vehicles (all variants) will comply (or not) with this requirement? |
| 154 | 1.4.1.3 | Passenger Compartment | | | | | | | Heading | |
| 155 | 1.4.1.3-01 | The internal height of the passenger compartment could be the specified height. | Minimum internal height 1350 mm. | Higher than 1350 mm. | 2 | 2 | Design Review | | Requirement | Describe the internal operating space characteristics of the variants and, if available, provide height/layout diagrams. |
| 156 | 1.4.1.4 | Doors & Hatches | | | | | | | Heading | |

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|------------|------------|---|---|--|---------------|---------------|---------------------|---|----------------|---|
| 157 | 1.4.1.4-01 | The UV-M/L should provide necessary aids to enable safe ingress and egress. | 1. Where necessary, an external step/ foothold. 2. Grab handles and footholds positioned at all entry points to assist. 3. Grab handles or footholds should not adversely affect operation of doors. 4. The vehicle's internally mounted equipment should not be damaged or accidentally operated during the ingress and egress of personnel. | | 1 | 2 | Demonstration | | Requirement | Will your vehicles (all variants) comply? If available, support this with diagrams and/or photographs. What options can you offer? |
| 158 | 1.4.1.4-02 | The UV-M/L should have doors for the Co-driver and Driver at the front of the passenger compartment and a door or tailgate for each separate passenger compartment. | By the 5th to 95th percentile of both genders: able to lock doors open for use as escape egress complying with stated standard. | Better than MOP Threshold with the ability to accommodate the 3rd to 97th percentile of both genders anthropometric ranges compliant with stated standard. | 1 | 1 | Inspection | MIL STD-1472E Design Criteria Human Engineering. Depending on vehicle body type. | Requirement | Will your vehicles (all variants) comply? If available, support this with diagrams and/or photographs. |
| 159 | 1.4.1.4-05 | Front doors of the UV-M/L should be capable of being secured fully opened (for amphibious operations). | Secured fully open (flat against the body) with tooling. | Secured fully open (flat against the body) without tooling. | 1 | 1 | Inspection | If your vehicle's front doors are unable to be secured fully open please provide alternative methods to achieve the same outcome, e.g. [easy] removal (and re-attachment) of front doors. | Requirement | Will your vehicles (all variants) will comply (or not) with this requirement? Please state options you can offer. |
| 160 | 1.4.1.4-07 | In the event of an accident at least one exit point (door or hatch) should be available for occupants to exit the UV-M/L when the vehicle is resting on any side. | By the 5th to 95th percentile of both genders. | Better than MOP Threshold with the ability to accommodate the 3rd to 97th percentile of both genders' anthropometric ranges. | 1 | 1 | Inspection | Only if Hatch is standard or an option. | Requirement | Will your vehicles (all variants) comply? What options can you offer? |
| 161 | 1.4.1.4-09 | Each door and hatch (if fitted) of the UV-M/L should be able to be locked. | The vehicle should be fitted with a security system which enables the following: a. Lock and unlock from inside without use of a key. b. Lock and unlock from outside when no personnel are in the vehicle. If using a key, it must be unique to the vehicle with all key sets per platform in duplicate. | Better than MOP Threshold. | 1 | 1 | Inspection | For security of vehicle, but avoiding risk of personnel being trapped inside, the vehicle should not be possible to lock from outside when the vehicle is occupied. Emergency access is always required to a vehicle that is occupied. If the locking scheme includes the use of padlocks the type will be specified by NZDF Directorate of Defence Security. | Requirement | What options do you offer for securing the vehicle? Will your vehicles (all variants) comply? |
| 162 | 1.4.1.4-11 | All UV-M/L doors could allow the occupants inside the vehicle outside vision of the vehicle before opening the door. | 120 degrees visibility out to 5 m from all door openings. | 180 degrees visibility out to 5 m from all door openings. | 2 | 2 | Inspection | Could include situational awareness system or camera. | Requirement | Will your vehicles (all variants) comply? If available, support this with diagrams and/or photographs. |
| 163 | 1.4.1.5 | Seats | | | | | | | Heading | |
| 164 | 1.4.1.5-02 | The UV-M/L should have robust seats for a range of passenger sizes. | 1. Should comply with Sect 5.6.2 of MIL-STD-1472G DoD Design Criteria Stds: Human Engineering and be: Comfortable, Anti-Snag, Waterproof, Ventilated and Quick Drying. 2. Able to withstand a person wearing PPE up to 150 kgs. 3. Robust to avoid deterioration of performance by: rips, degradation and deformation of seat structure during usage. 4. Occupants of body dimensions 5th to 95th percentile of both genders' anthropometric ranges. | Better than MOP Threshold with the ability to accommodate the 3rd to 97th percentile of both genders' anthropometric ranges. | 1 | 1 | Inspection | Seats should comply with Section 5.6.2 of MIL-STD-1472G Department of Defence Design Criteria Standard: Human Engineering. | Requirement | What seating options do you offer, that will meet this requirement? If available, support this with diagrams and/or photographs. |
| 165 | 1.4.1.5-03 | The seats should be adjustable to provide back and thigh support and head restraint for a range of passenger sizes. | Seats adjustable for pers in the 5th to 95th percentile of both genders. | Seats adjustable for pers in the 3rd to 97th percentile of both genders' anthropometric ranges. | 1 | 1 | Inspection | Seating restraints need to provide the crew with suitable range of movement to allow their tasks to be performed when seated and restrained. | Requirement | What seating options do you offer, that will meet this requirement? If available, support this with diagrams and/or photographs. |
| 166 | 1.4.2 | Engine | | | | | | | Heading | |
| 167 | 1.4.2-01 | The UV-M/L should be able to be restarted after refuelling having run out of fuel. | UV-M/L can be restarted from within Driver/ crew compartment with manual intervention before normal start-up procedure. | UV-M/L can be restarted without manual intervention before normal start-up procedure. | 1 | 1 | Demonstration | | Requirement | Will your vehicles (all variants) comply? (Yes/No). Please state which measure your solution meet, i.e. Objective or MoP. |
| 168 | 1.4.2-02 | The UV-M/L should be able to maintain the engine speed above idle during tasks such as winching and battery charging. | Operated by driver. | Operated by vehicle system. | 1 | 1 | Demonstration | | Requirement | Please confirm whether (or not) your solution meets (or exceeds) this requirement's threshold. |
| 169 | 1.4.2-03 | The UV-M/L could be able to start -up and drive off immediately | Able to override, or drive through, automotive pre-start health checks, if need to move off immediately. | | 2 | 2 | Demonstration | Doesn't apply to the need to build up air, to release an air operated parking brake. | Requirement | Please confirm how long is required from initiating start-up sequence, until the vehicles (all variants) can drive off. |
| 170 | 1.4.3 | Transmission | | | | | | | Heading | |
| 171 | 1.4.3-01 | The UV-M/L should be fitted with an automatic or electronically controlled transmission. | Automatic or electronically controlled transmission. | Any other accepted system as agreed. | 1 | 1 | Analysis | If other system please describe what this is. | Requirement | Please provide information that supports compliance to this requirement. If available, support this with technical details. What options do you offer in this area? |
| 172 | 1.4.3-02 | The transmission or the engine of the UV-M/L could provide retardation so that the service brakes do not have to be used when descending a 60 percent grade in first gear, with an entry speed not greater than the maximum speed attainable when ascending a 60 percent grade. | Not less than 60 percent grade. | | 2 | 2 | Demonstration | | Requirement | Please provide information that supports compliance to this requirement. |

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|------------|-------------|---|--|---|---------------|---------------|---------------------|--|-------------|--|
| 173 | 1.4.5 | Braking System | | | | | | | Heading | |
| 174 | 1.4.5-01(a) | The UV-M/L will incorporate a parking brake independent of the service brake, being capable of holding a stationary UV-M/L at GVM on a minimum of 20% grade, facing forward and rearward. | Capable of holding on 20 percent grade and complying with NZTA Land Transport Rule: Heavy Vehicle Brakes 2006 minimum requirement. | see 1.4.5-01(b) for Objective target measure. | M | M | Trial | Complying with NZTA Land Transport Rule: Heavy Vehicle Brakes 2006 1. 20 percent in NZTA brake rule minimum requirement. 2. NZDF requirement to enable cross country movement. | Requirement | Please confirm your vehicles (all variants) comply. If available, please provide information that supports compliance to this requirement. |
| 175 | 1.4.5-01(b) | Mandatory requirement 1.4.5-01(a) was "The UV-M/L will incorporate a parking brake independent of the service brake, being capable of holding a stationary UV-M/L at GVM on a minimum of 20% grade, facing forward and rearward". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The UV-M/L could incorporate a parking brake independent of the service brake, being capable of holding a stationary UV-M/L at GVM on a greater than 20% grade (1:5 gradient), facing forward and rearward. | see 1.4.5-01(a) requirement. | Capable of holding on grades greater than 20% (1 in 5) in accordance with NZDF required cross country mobility. | 2 | 2 | Trial | Ideally holding on grades up to 60% | Requirement | Please confirm the maximum grade your vehicle's parking brake will hold a stationary vehicle on a slope. |
| 176 | 1.4.5-02 | Battle damage to any pneumatic or hydraulic control or supply line in the braking system of the UV-M/L may not result in immobilisation of the vehicle due to the automatic engagement of the service brakes or parking/ emergency brakes (e.g. application of spring brakes) after Combat Preparation. | No automatic engagement of the service brakes or parking/ emergency brakes (e.g. application of spring brakes) after Combat Preparation. | Automatic disengagement or other system without requiring preparation. | 3 | 3 | Analysis | | Requirement | Please provide information on options you offer to support compliance to this requirement (with MoP Threshold or Objective measures). We also welcome alternative suggestions that mitigate any non-compliance. |
| 177 | 1.4.5-04 | If fitted with pneumatic brakes the UV-M should provide twin-line pneumatic connections for towed UV-Ms. | Connection by an accepted system as agreed and supplied by the Contractor. | Connection for towing is to be by 'Gladhand' connectors. | 1 | N/A | Analysis | For Medium Vehicles if fitted with pneumatic braking system. Complying with NZ Land Transport Regulations Heavy Vehicle Brakes 2006. | Requirement | Please provide information on options you offer to support compliance to this requirement (with MoP Threshold or Objective measures). We also welcome alternative suggestions that mitigate any non-compliance. |
| 178 | 1.4.5-05 | The UV-M may be fitted with air couplings to the front of the vehicle which may allow actuation of the UV-M's brakes when it is being towed by another UV-M or by a recovery vehicle. | May apply braking to some wheels when front vehicle braking. | May apply braking to all wheels when front vehicle braking. | 3 | N/A | Analysis | Complying with NZ Land Transport Regulations Heavy Vehicle Brakes 2006. 'only if fitted with air brakes'. | Requirement | If available, please provide information on options you offer to support compliance to this requirement (with MoP Threshold or Objective measures). |
| 179 | 1.4.6 | Wheels and Tyres | | | | | | | Heading | |
| 180 | 1.4.6-01 | The tyre type and tread pattern of the UV-M/L should give the best overall performance (tread life, noise, ride quality, directional stability and off-road traction) in the mix of operating conditions described in the Mission Profile at Annex B. | | | 1 | 1 | | Contractor to provide a recommended tyre type (i.e. manufacturers and models) that best meets the mobility requirements as per Mission Profile in Annex B. | Requirement | Please provide information (including cost) on tyre options you offer (Make and Model). What compromises are there in this tyre selection (e.g. road grip versus cross-country performance, tread wear versus longevity, expense versus performance)? <i>Note - Respondents can propose multiple tyre options via Respondent Costed Options.</i> |
| 181 | 1.4.6-02 | The UV-M/L wheels could provide adequate clearance for the operation of the vehicle with wheel chains fitted. | Adequate clearance complying with Contractor recommended wheel chain systems. | N/A | 2 | 2 | Demonstration | | Requirement | Will your vehicles (all variants) comply? Please provide information on tyre clearances. |
| 182 | 1.4.6.1 | Spare Wheel | | | | | | | Heading | |
| 183 | 1.4.6.1-01 | One full size spare wheel assembly for the UV-M/L could be provided and stowed so it is accessible without removing any part of the load. | One spare wheel assembly stowed on deployed vehicle system | N/A | 2 | 2 | Inspection | | Requirement | If a spare wheel is provided, please describe location and procedures for removing from stowed position and replacing to stowed position. If available, support this with diagrams and/or photographs. If a spare wheel is not provided, please provide alternative solution for enabling the vehicle to continue (e.g. Run flats), including the payload impact of additional weight and the additional cost of these. [Costed option] |
| 184 | 1.4.6.1-02 | If the spare wheel presents handling challenges, due to weight or position/height from ground, the UV-M/L could be fitted with a device that allows the spare wheel assembly to be removed from and refitted to the vehicle by not more than two persons. | Removed from and refitted to the vehicle by not more than two persons. | N/A | 2 | 2 | Demonstration | | Requirement | If a spare wheel is provided, please describe location and procedures for removing from stowed position and replacing to stowed position, and tools provided. If available, support this with diagrams and/or photographs. |
| 185 | 1.4.7 | Electrical Systems and C4I | | | | | | | Heading | |

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|------------|---------------|---|---|---|---------------|---------------|---------------------|--|-------------|---|--|
| 186 | 1.4.7-01(a) | The UV-M/L shall supply 12 to 24V DC electrical power to all installed and hosted equipment as stated. | Engine operating under all conditions and fuels: 1. For C2 Vehicles provide at least 100 Amps of current at engine idle. 2. For non C2 Vehicles provide at least 100 Amps total. 3. As determined by power requirements of the UV-M/L including: - Vehicle Systems (could be 12VDC) - Ancillary Systems (12VDC and 24VDC). | See 1.4.7-01(b) Objective target measure. | K | K | Analysis | - For clarity vehicle systems could be 12VDC or 24VDC, however both 12VDC and 24VDC is required for ancillaries complying with GVA light, i.e. cables and connectors. - Complying with: a. DEFSTAN 61-005 Part 6, Section 6 Power Critical Design Review. b. DEFSTAN 59-411. c. DEFSTAN 23-009, Section 7 GVA Power Infrastructure. d. Power Requirements at Annex D. | Requirement | What options can you offer in regards to supplying 12 and 24V DC power? Explain (and/or provide diagrams showing) any design features in regards to supply of 12 V and 24V DC, and results of tests or certification, conducted to assure compliance with requirement and stated standards, e.g. alternator current output versus engine RPM graphs, climatic conditions, load test results. | |
| 187 | 1.4.7-01(b) | Key requirement 1.4.7-01(a) was "The UV-M/L shall supply 12 to 24V DC electrical power to all installed and hosted equipment as stated". If RFP respondents propose a solution that is better than the MoP Threshold for this requirement it will be evaluated as follows. The UV-M/L should supply more than 100 amps current at 12 to 24V DC electrical power to all installed and hosted equipment as stated. | See 1.4.7-01(a) requirement. | Provide at least 180 Amps of [12 and 24 V DC] current (over and above base-platform requirements) at engine idle. | 1 | 1 | Analysis | Ideally supplying at least 180 Amps of current (over and above base-platform requirements) at engine idle. Complying with: a. DEFSTAN 61-005 Part 6, Section 6 Power Critical Design Review. b. DEFSTAN 59-411. c. DEFSTAN 23-009, Section 7 GVA Power Infrastructure. d. Power Requirements at Annex D. | Requirement | What options can you offer in regards to supplying 12 and 24V DC power? Explain (and/or provide diagrams showing) any design features in regards to supply of 12 V and 24V DC, and results of tests or certification, conducted to assure compliance with requirement and stated standards, e.g. alternator current output versus engine RPM graphs, climatic conditions, load test results. | |
| 188 | 1.4.7-02 | The UV-M/L should be fitted with a single 24 Volt DC negative earth electrical system with all isolators closed, to supply electrical power to the vehicle ancillary systems. | 24 Volt DC negative earth electrical system with all isolators closed. | | 1 | 1 | Analysis | Complying with DEFSTAN 23-006, characteristics of Electrical Systems and Compatibility of Utilisation Equipment. | Requirement | Explain (and/or provide diagrams showing) any design features in regards to the requirement, and results of tests or certification, conducted to assure compliance with requirement and stated standards. | |
| 189 | 1.4.7-03 | The UV-M/L electrical system should incorporate an earthing system capable of being earthed externally to ground. | 12 to 24 Volt DC negative earth electrical system. | | 1 | 1 | Analysis | Complying with DEFSTAN 23-006, characteristics of Electrical Systems and Compatibility of Utilisation Equipment. | Requirement | Will your vehicles (all variants) comply? | |
| 190 | 1.4.7-04 | The UV-M/L should be provided with a Power Distribution Panel capable of providing electrical power for electrical equipment within the vehicle. | 12 and 24VDC negative earth electrical power for the ancillary systems. | Better than MOP Threshold, to include multiple Power Distribution Units' (PDUs), separately controlled and protected. | 1 | 1 | Analysis | See Annex D for additional information. | Requirement | Please provide information on standard configuration and additional options you can offer, and information on how this will be achieved, e.g. Circuit diagrams, photographs. | |
| 191 | 1.4.7-05 | The UV-M/L may be provided with a range of 12V DC and 24V DC electrical outlets. | Main vehicle electrical system remains as 12 and 24 Volt DC negative earth electrical system. | | 3 | 3 | Analysis | Could include cigarette lighter, NATO electrical sockets, and USB power connectors. Complying with DEFSTAN 23-006, characteristics of Electrical Systems and Compatibility of Utilisation Equipment. | Requirement | Please provide information on standard configuration and additional options you can offer, including outlets proposed and their location, e.g. [Circuit] diagram, photograph. | |
| 192 | 1.4.7-06 | The UV-M/L could alert the Driver to any critical battery condition. | 1. Provide a visual and audible alert when the battery level falls to a critical state (one that would prevent the vehicle starting). 2. Ability to switch off audible alarm. | Better than MOP Threshold but with the ability to pre-programme semi-automation or platform power management. May include a Voltmeter. | 2 | 2 | Analysis | | Requirement | Please provide details on [costed] options you can offer and please provide information on how this will be achieved including location of alarm and its display; and test results. | |
| 193 | 1.4.7.1 | Batteries | | | | | | | | Heading | |
| 194 | 1.4.7.1-01 | Batteries of the UV-M/L should have adequate ventilation. | No dangerous fumes enter the driver or passenger compartments. Should prevent battery overheating. | | 1 | 1 | Analysis | | Requirement | Please provide design considerations and test results. If available, include diagram or photograph of battery's location and ventilation characteristics. | |
| 195 | 1.4.7.1-02 | The UV-M/L batteries should be maintenance free type batteries. | Maintenance free batteries. | Ability to support sealed lead acid batteries (SLAB). | 1 | 1 | Analysis | NZDF currently uses Sonnenschein SLAB batteries. | Requirement | Please provide details of the options you can offer and cost differences between options. | |
| 196 | 1.4.7.1-03 | The UV-M/L should provide circuit breaker protection for all power outlets within the vehicle. | 1. Circuit Breaker must be accessible within 30 seconds from within the UV-M/L 2. Circuit Breaker switch should be provided inside the Driver and Co-driver working area. | Better than MOP Threshold. | 1 | 1 | Analysis | Complying with DEFSTAN 61-005 Nominal 12 V and 24 V DC Electrical Systems in Military Platforms. | Requirement | Please provide information on how this will be achieved, e.g. circuit diagrams and photographs, test results. | |
| 197 | 1.4.7.1-04 | The UV-M/L batteries could be readily accessible for daily checking and periodic maintenance. | Batteries accessible within 30 seconds from within the UV-M/L. | N/A | 2 | 2 | Analysis | | Requirement | Please provide information on how this will be achieved, e.g. diagrams and photographs, test results. | |
| 198 | 1.4.7.1-05(a) | High draw UV-M/L should have separate vehicle and mission batteries. | Separate vehicle and mission batteries. | Better than MOP Threshold. | 1 | 1 | Analysis | Auxiliary or Mission Batteries when fitted. High draw is UV-M/L Command and Control variants. | Requirement | Please provide information on how this will be achieved, e.g. circuit diagrams and photographs. | |

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|------------|---------------|--|--|--|---------------|---------------|---------------------|--|-------------|---|
| 199 | 1.4.7.1-05(b) | The UV-M/L should allow charging of vehicle (and ancillary, if installed) batteries from an external power source. | 1. Presence of a 12 V NATO Slave Socket off the vehicle capable of charging both "system" and "mission" batteries. 2. The socket in Serial 1. Could be capable of starting the vehicle from external power source. 3. The socket and cable should allow ability to; a. "Jump" start from another compatible power source. b. "Jump" start another vehicle. | Any other accepted system, agreed as better than MOP Threshold, including: a. Trickle charge of the vehicle's "system" batteries without damage from computable power source. b. Trickle charge of the vehicle's "mission" batteries without damage from compatible power source. c. Trickle charge both the vehicle's "system" and "mission" batteries without damage, from external power source. | 1 | 1 | Analysis | External power source could be Mains power and DC or AC Generator Set. | Requirement | Please provide information on how this will be achieved, e.g. circuit diagrams and photographs, test results. |
| 200 | 1.4.7.1-06 | The UV-M/L could provide the means to isolate all electrical equipment and batteries. | 1. Master isolation switch provided inside the Driver and Co-driver working area. 2. Must not conflict with the power management system when in operation and have a self-protection facility and ability to avoid a deep discharge of both "system" and "mission" batteries. | Any other accepted system, agreed as better than MOP Threshold, e.g. a battery recovery threshold safety mechanism. | 2 | 2 | Analysis | Complying with DEFSTAN 61-005 Nominal 12 V and 24 V DC Electrical Systems in Military Platforms, Part 6, Section 9.1 Circuit Protection Requirements. | Requirement | if this is an option you are offering, please provide information on how this will be achieved, e.g. circuit diagrams and photographs, test results. |
| 201 | 1.4.7.1-07 | The UV-M/L should comply with earth bonding standards. | Complying with: a. DEFSTAN 59-411 Part 4 Issue 2 Annex B3. b. DEFSTAN 61-005 Nominal 12 V and 24 V DC Electrical Systems in Military Platforms. | | 1 | 1 | Inspection | Complying with DEFSTAN 59-411 Part 4 Issue 2 Annex B3. DEFSTAN 61-005 Nominal 12 V and 24 V DC Electrical Systems in Military Platforms. | Requirement | Please confirm your proposed solutions will comply (or not) with this requirement. Please provide information on how this will be achieved, e.g. circuit diagrams and photographs, test results. |
| 202 | 1.4.7.2 | Lighting | | | | | | | Heading | |
| 203 | 1.4.7.2.1 | External Lighting | | | | | | | Heading | |
| 204 | 1.4.7.2.1-01 | The UV-M/L will be fitted with vehicle lighting and reflectors complying with NZTA Regulations. | Complying with NZTA Land Transport Rule Vehicle Lighting 2004. | | M | M | Inspection | Land Transport Rule: Vehicle Lighting 2004 (and Amendments). | Requirement | Please provide information on how compliance will be achieved, e.g. specifications, diagrams and photographs, test results. |
| 205 | 1.4.7.2.1-02 | The UV-M/L could be fitted with lights to assist with night vision goggle driving. | Infra red frequency 940 NM. | Infra red frequency 850 NM. | 2 | 2 | Design Review | Night driving may be enhanced by driver viewing aids. To assist with driving while using NVG. 940nm Non visible IR lights. Complying with MIL STD 30009. | Requirement | Please provide information on how this will be achieved, e.g. specifications, test results. |
| 206 | 1.4.7.2.1-03 | The UV-M/L should be fitted with Infra red (IR) and blackout marker lights at the front of the vehicle, one at each side in close proximity to the normal width marker lights. | Fitted at the front of the vehicle, one at each side in close proximity to the normal width marker lights. | Any other accepted system as agreed with similar fit, form and function. | 1 | 1 | Design Review | | Requirement | Please provide information (including locations) on options you offer to support compliance to this requirement (with MoP Threshold or Objective measures). We also welcome alternative suggestions that mitigate any non-compliance. |
| 207 | 1.4.7.2.1-04 | The UV-M/L should be fitted with a pair of combination blackout marker and stop lights on the rear of the vehicle, one at each side in close proximity to the tail-lights. | Fitted at the rear of the vehicle, one at each side in close proximity to the normal width tail lights. | Any other accepted system as agreed with similar fit, form and function. | 1 | 1 | Design Review | | Requirement | Please provide information (including locations) on options you offer to support compliance to this requirement (with MoP Threshold or Objective measures). We also welcome alternative suggestions that mitigate any non-compliance. |
| 208 | 1.4.7.2.1-05 | The UV-M/L may be fitted with an electrical connector, which allows operation of the brake, tail and rear indicator lights when it is being towed by another vehicle. | Fitted to the vehicle front, allows operation of the brake, tail and rear indicator lights when under tow. | Any other accepted system as agreed with similar fit, form and function. | 3 | 3 | Design Review | | Requirement | If this is an option you are offering, please provide information on how this will be achieved, e.g. circuit diagrams and photographs, test results. |
| 209 | 1.4.7.2.1-06 | The external lights could be protected from damage when the UV-M/L is operated in accordance with the Mission Profile at Annex B. | Protection able to be removed by operator and stowed within 10 minutes. | Protection able to be removed without tools and stowed within 5 minutes. | 2 | 2 | Design Review | | Requirement | Please provide information on how this will be achieved, e.g. diagrams or photos, explanation of fitting and removal procedures with timings. |
| 210 | 1.4.7.2.2 | Internal Lighting | | | | | | | Heading | |
| 211 | 1.4.7.2.2-01 | The illumination of the UV-M/L instrumentation should be compatible with the use of night vision equipment during operations including Driver Night Vision Goggles. | Compatible with the use of current NZ Army in-service night vision equipment. | Any other accepted system as agreed with similar fit, form and function. | 1 | 1 | Inspection | This may also include GVA connections for reducing illumination of EUD screen. NZDF NVG details in Annex G. | Requirement | Please explain how compliance with this requirement is achieved and any tests undertaken that demonstrate this. |
| 212 | 1.4.7.2.2-02 | A flexibly mounted white map reading light could be provided for the UV-M/L Co-driver which is designed to remain in the position set by the Co-driver. | Flexible mount to allow use by Co-driver while seated and restrained by safety belt. | Any other accepted system as agreed with similar fit, form and function. | 2 | 2 | Design Review | | Requirement | If this is an option you are offering, please provide information on how this will be achieved, e.g. diagrams and photographs, lux, test results. |
| 213 | 1.4.7.2.2-03 | The Driver/ Co-driver and passenger compartments of the UV-M/L should be supplied with lighting to maintain operator night vision. | Should include red light and suitable brightness control. | Should include Low Level white and or LED lighting or any other agreed system as accepted with similar fit, form and function. | 1 | 1 | Design Review | Red lighting may not be the most suitable colour when coupled with other displays or vehicle variants, ie Command Post (map reading) and Ambulance (visibility of blood). Required for signature management and operator 'dark adaptation' in a Land tactical environment. Complying with DEFSTAN 00-25-19 (2004). | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved and any tests undertaken that demonstrate this. |

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|------------|--------------|---|--|---|---------------|---------------|---------------------|--|-------------|---|
| 214 | 1.4.7.2.2-04 | The drivers dash, warning and switch panel lights of the UV-M/L should be capable of being dimmed to completely off. | Must include an adjustable control of brightness, but audible warnings still function. | Any other accepted system, agreed as better than MOP Threshold. | 1 | 1 | Design Review | | Requirement | If this is an option you are offering, please confirm compliance and provide information on how this will be achieved. |
| 215 | 1.4.7.2.3 | Switches | | | | | | | Heading | |
| 216 | 1.4.7.2.3-01 | The UV-M/L will be fitted with a suitable switch to allow the normal operational use of all lights. | To meet LTSA regulations | | M | M | Design Review | Land Transport Rule: Vehicle Lighting 2004 (and Amendments). | Requirement | Please confirm your offering complies with this requirement. |
| 217 | 1.4.7.2.3-02 | The UV-M/L should be fitted with a combination switch to provide white, reduced and blackout lighting. | Switch to provide white, reduced and blackout Lighting. | | 1 | 1 | Design Review | | Requirement | If this is an option you are offering, please confirm compliance and provide information on how this will be achieved. |
| 218 | 1.4.7.2.3-03 | Opening of any door or hatch could automatically switch off the lights inside the passenger compartment when the UV-M/L is operated in blackout mode. | Auto switch off the lights in the passenger compartment when in blackout mode. | Any other accepted system, agreed as better than MOP Threshold. | 2 | 2 | Design Review | This may also include GVA connections for reducing illumination of SA screens depending on what may be technically possible. | Requirement | If this is an option you are offering, please confirm compliance and provide information on how this will be achieved. |
| 219 | 1.4.7.2.4 | C4I Equipment | | | | | | | Heading | |
| 220 | 1.4.7.2.4-01 | All variants will have C4I equipment as per NEA Mobile Platform Capability Configurations, as detailed in Annex D. | | | N/A | N/A | | Refer to RFP Part 2, Statement of Requirements, enclosure 4 C4I information, and DID PROJ-1.11. | Info/Advice | |
| 221 | 1.4.7.2.4-02 | All variants should provide for power, provision for signal connections and mounting for the installation of the NZDF C4I systems. | All SWaP-C considerations for NZDF C4I Comms Complying with NEA fit in Annex D | | 1 | N/A | Inspection | | Requirement | Please confirm you can meet SWAP-C requirements, as per NEA configuration for this variant, in Annex D. |
| 222 | 1.4.8 | Alarm and Alerts | | | | | | | Heading | |
| 223 | 1.4.8-01 | The UV-M/L should provide warnings visual and/or audible to alert the driver to critical vehicle systems information. | 1. Any auditory alerts used to bring attention to critical info must be able to be muted. 2. Warnings are to be unambiguous, in their meaning and urgency, and not overload nor induce a startle reaction from the crew. 3. Visual warnings are located within the primary visual field and visible under all expected background lighting conditions. | | 1 | 1 | Demonstration | The choice, designation and allocation of all signal types, including warnings, should be considered for the crew station and its equipment as a whole, and rationalised with other crew stations, to ensure that a coherent systems approach is adopted. Note, a horn is mandatory. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement will be achieved. |
| 224 | 1.4.9 | Environmental Control | | | | | | | Heading | |
| 225 | 1.4.9-01 | The environmental control system of the UV-M/L should provide external fresh air for the vehicle occupants in both the front and rear compartments. | With engine running, selectable on/off and scalable forced air control. Within a defined range of environmental conditions. | | 1 | 1 | Design Review | The defined range of environmental conditions are defined in Annex B Mission Profile ("Climatic Conditions") at Annex B to this SOR pursuant to Requirements 1.1.1-04 (a) and 1.1.1-04 (b). | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved and, if available, any tests undertaken that demonstrate this. |
| 226 | 1.4.9-02 | The environmental control system of the UV-M/L could, when drawing fresh air, provide an over-pressure to keep the vehicle free of dust when the vehicle doors and windows are closed. | Provide an over-pressure to keep the vehicle free of dust. | | 2 | 2 | Design Review | The dust exposure levels are per Requirement 1.1.1-18. | Requirement | If proposed in your solution, please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved and any tests undertaken that demonstrate this. |
| 227 | 1.4.9-03 | The controls for the environmental control system for the rear compartment could be located within reach of a person seated in the rear compartment. | Temperature in the front and rear cabins to be able to be selected independently. | | 2 | 2 | Design Review | Applicable only, if separate compartment. | Requirement | If this is an option you are offering, please confirm compliance and provide information on how this will be achieved. |
| 228 | 1.4.9-04 | The environmental control system of a combat laden UV-M/L could be able to maintain an internal temperature of at least 10 degrees Celsius warmer (winter) or cooler (summer) than the external temperature and a relative humidity not exceeding 50 percent when operated with all hatches and doors closed. | Temperature achieved within 60 minutes of system being turned on. | Temperature achieved within 30 minutes of environmental system being turned on. | 2 | 2 | Design Review | The operating environment requirements are defined in Annex B Mission Profile ("Climatic Conditions") at Annex B to this SOR pursuant to Requirements 1.1.1-04 (a) and 1.1.1-04 (b). | Requirement | Please provide information on options you can offer to meet (or exceed) the threshold measure. |
| 229 | 1.4.10 | Vision Equipment | | | | | | | Heading | |
| 230 | 1.4.10-02 | The UV-M/L should be designed so that the Driver is capable of safely driving the UV-M/L by night using night driving aids. | Driver is capable of driving safely using NZDF NVG. This includes the driver being able to detect vehicle warning signals (e.g. engine overheating). | Using thermal driving aid. | 1 | 1 | Design Review | Solution does not have to be limited to NVG. We invite the Contractor to propose other night vision driving aids/functionality. Could include system integrated night driving mode. See Annex G for NVG details. | Requirement | Please confirm these NVG don't cause glare/ strobing/wave effects making it hard to read vehicle instruments, and have external vision necessary for safe driving. |
| 231 | 1.4.10-03 | The UV-M/L should be designed so that the Co-driver has the ability to operate by day and night, including the use of night vision equipment at night. | Should give a view not worse than the view of the driver but swapped to the Co-driver's side. | | 1 | 1 | Design Review | 'Operational tasks' include: Open/close door; Occupy seat, Fit/release safety belt, Operate vehicle controls, Stow personnel's weapon, holding and firing personnel weapon out of vehicle, Stow, fit and operate night vision goggles, Communicate with integrated comms equipment, navigate, Stow and recover personal equipment, Brace during rollover, Escape vehicle during fording/amphibious activities and Fight internal fire. They are to be assessed wearing the following clothing: While in clean fatigue, or wearing wet weather clothing or wearing body armour/helmet, or wearing webbing. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved and any tests undertaken that demonstrate this. |
| 232 | 1.5 | FITTINGS & ACCESSORIES | | | | | | | Heading | |
| 233 | 1.5.1 | Driver Compartment/ Station | | | | | | | Heading | |
| 234 | 1.5.1-01 | The support structure for the external rear vision mirrors of the UV-M/L should comply with NZTA regulations. | Complying with Land Transport Rules: External Projections and Mirrors Mirrors to deflect if struck by objects due to the forward movement of the UV-M/L. | | 1 | 1 | Inspection | Complying with Land Transport Rules: External Projections and Mirrors. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement shall be achieved. |

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| Serial num | Rqmt. No. | System Requirement or Constraint | Minimum Requirement (Measure of Performance (MoP) Threshold) | Objective (exceeds Threshold) | UV-M Priority | UV-L Priority | Verification Method | Remarks | Object Type | EVIDENCE / RESPONSE REQUIRED |
|------------|-----------|---|---|--|---------------|---------------|---------------------|--|-------------|---|
| 235 | 1.5.1-02 | The UV-M/L should be fitted with instrumentation useable by the Driver, including at a minimum a speedometer, tachometer, odometer with a trip meter facility, fuel gauge, battery charging indicator, battery condition indicator, engine coolant temperature gauge. | Complying with Land Transport Rules: Vehicle equipment. Speedometer in km/h and Odometer in km. | Additional gauges/warning lights. | 1 | 1 | Demonstration | Complying with Land Transport Rules: Vehicle equipment. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement shall be achieved. |
| 236 | 1.5.3 | Individual Weapon Stowage | | | | | | | | |
| 237 | 1.5.3-02 | The UV-M/L should provide suitable rated weapon stowage to restrain the in-service MARS-L personal weapon of each seated occupant in the event of the vehicle rolling over. | To include NZ Army individual weapons including fitted with magazine, enhanced sights and under barrel grenade launchers. | | 1 | 1 | Demonstration | See Annex G for further details on MARS-L. If OEM mounts don't fit MARS-L, then provision needs to be made for space and fitting of mounts. Excludes troop carrier module, as it has specific requirements. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement shall be achieved. |
| 238 | 1.5.4 | Stowage | | | | | | | | |
| 239 | 1.5.4-01 | The UV-M/L should provide sufficient stowage for all vehicle Complete Equipment Schedule (CES) and Mission Equipment to meet the mission requirements. | Ability to store CES in accordance with Annex C. Any externally accessed compartments or externally mounted equipment should be lockable. | Any other accepted system as agreed with similar fit, form and function. | 1 | 1 | Inspection | Secure stowage can include security cable and padlock. A photo of the generic vehicle CES and dimensions of the containers is provided at serial 30 of Annex G | Requirement | Please provide information on options you offer to support compliance to this requirement (with MoP Threshold or Objective measures). We also welcome alternative suggestions that mitigate any non-compliance. |
| 240 | 1.5.4-02 | The UV-M may provide for the carriage of a rigid recovery towing 'A' frame that is capable of being connected to the recovery lugs and suitable for towing a combat laden UV-M/L. | Accepted and agreed 'A' frame as recommended by Contractor. | | 3 | N/A | Inspection | Certified recovery and/or tie down and lifting lugs. Certified A frame. The Crown is interested in use of an 'A' Frame that is already in NZDF inventory. Which existing item will depend on the GVM, turning circle and attachment points of the UV-M. Use of existing 'A' frames will be explored with the Successful Respondent during Due Diligence and contract establishment. | Requirement | If proposed in your solution, please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved, including details of any recommended 'A' Frame. |
| 241 | 1.5.4-03 | Any external stowage provisions of the UV-M/L may be robust so that damage does not occur to any lockers or the contents when the UV-M/L is driven through water up to the fording depth. | Water ingress rating of IPX5. | Water ingress rating of IPX6. | 3 | 3 | Inspection | ISO 20653:2013 | Requirement | If proposed in your solution, please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved and any tests undertaken that demonstrate this. |
| 242 | 1.5.4-04 | The UV-M/L could be designed to allow the stowage of the vehicle Complete Equipment Schedule(CES) items be easily accessible by all operators. | Unobstructed access, to the 5th to 95th percentile of both genders. | | 2 | 2 | Analysis | Stowage of pioneer tools, tyre chains, recovery/towing strops/chains/shackles/etc. A CES inventory is provided in Annex G Complying with Annex C Payload. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved. |
| 243 | 1.5.4-05 | The UV-M/L external stowage could be robust so that damage does not occur to any lockers or the contents when the UV-M/L is driven through thick vegetation. | Protected from damage when the UV-M/L is operated in accordance with the Mission Profile. | | 2 | 2 | Inspection | Complying with Mission Profile, to enable operational supportability. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved. |
| 244 | 1.5.4-06 | External stowage brackets and bins could be arranged to ensure that the stowage of equipment does not compromise the stability of the Combat-Laden UV-M/L. | Not compromise UV-M/L stability when loaded in accordance with the Mission Profile. | | 2 | 2 | Demonstration | Complying with Mission Profile, to enable operational supportability. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved. |
| 245 | 1.5.4-07 | External stowage facilities could not cause the UV-M/L to exceed the NZTA width regulations. | Complying with NZTA Rule Land Transport Rule, VDAM Vehicle Dimensions and Mass 2016, less than 3.10 m. | Complying with NZTA Rule and width under 2.55 m. | 2 | 2 | Demonstration | Complying with Land Transport Rule,VDAM Vehicle Dimensions and Mass 2016 - 3.10 m is the MOP Threshold for 'piloting vehicles' on NZ Roads. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved. |
| 246 | 1.5.4-08 | The UV-M/L could provide suitable restraints for all stowage provisions inside the vehicle. | Suitably rated for level of vehicle rollover protection | | 2 | 2 | Inspection | | Requirement | If proposed in your solution, please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved. |
| 247 | 1.5.5 | External Fixtures | | | | | | | | |
| 248 | 1.5.5-01 | The UV-M/L could be fitted with lifting provisions designed for sling loading that comply with the stated standard. | Complying with MIL-STD-209K Interface Standard for Lifting and Tie down Provisions, or another accepted system as agreed with similar fit, form and function. | N/A | 2 | 3 | Analysis | Also consider Health & Safety and Engineering Certification alongside MIL-STD and/or STANAG. | Requirement | If proposed in your solution, please explain (using words, diagrams, and/or photographs) how compliance with this requirement is achieved. This includes lifting loads on applicable weldments/attachments (e.g. lug, eye, bollard) and their rating. |
| 249 | 1.5.5-02 | The UV-M/L should be fitted with external tie down facilities that comply as stated. | Complying with MIL-STD-209K Interface Standard for Lifting and Tie down Provisions, or another accepted system as agreed with similar fit, form and function. | N/A | 1 | 1 | Analysis | | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement shall be achieved. |
| 250 | 1.5.5-03 | The UV-M/L could provide the ability to inflate the tyres from a protected external air outlet fitted to the vehicle. | - inflation to not less than 90 PSI, or; - any other accepted system as agreed with similar fit, form and function. | N/A | 2 | 3 | Inspection | To enable operational supportability – only if already fitted with air compressor, e.g. Medium Vehicle with air brakes. | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). |
| 251 | 1.5.6 | Instruction & Identification Plates | | | | | | | | |
| 252 | 1.5.6-01 | The UV-M/L will be fitted with NZTA compliant number plate holders at the front and rear of the vehicle. | Complying with NZTA Land Transport Rule: Vehicle Lighting 2004. - Number plate must be fixed in an upright position. - Number plates must be displayed so that all characters are clearly visible at all times. | N/A | M | M | Inspection | See Annex G for plate dimensions also NZTA Land Transport Rule: Vehicle Lighting 2004. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement shall be achieved. |

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|------------|-----------|--|--|---|---------------|---------------|---------------------|--|-------------|--|--|
| 253 | 1.5.6-02 | The UV-M/L will be fitted with a Vehicle Identification Number (VIN) plate. | Complying with NZTA Land Transport Rule: Vehicle Standards Compliance 2002. | N/A | M | M | Inspection | NZTA compliant Complying with NZTA Land Transport Rule: Vehicle Standards Compliance 2002. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement shall be achieved. | |
| 254 | 1.5.6-03 | The UV-M/L should provide appropriate control legends and markings. | 1. Resistant to wear and damage under all operational conditions. 2. Control legends to remain legible throughout the expected life of the equipment with minimal cleaning 3. Legends to be written in English. | | 1 | 1 | Inspection | | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement shall be achieved. | |
| 255 | 1.5.6-04 | The UV-M/L should be fitted with Instruction and Identification plates including warning decals to indicate all necessary information for the safe and proper operation of the UV-M/L. | Fitted with Instruction and Identification plates in English including warning decals. Includes auxiliary component, i.e. winch, especially switches and controls and the servicing and identification. | | 1 | 1 | Inspection | | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement shall be achieved. | |
| 256 | 2 | VARIANT SPECIFIC REQUIREMENTS | | | | | | | | Heading | |
| 257 | 2.0-02 | The UV-M/L should comprise the following variants: Medium (UV-M) 1. General Service (Troop Carrier) 2. Command and Control (C2) 3. Ambulance 4. Maintenance Support Light (UV-L) 5. General Service 6. Command and Liaison. | | | N/A | N/A | | 1. General Service is expected to have a variety of modular stowage configurations including the ability to include first line Quartermaster Stores. Selected vehicles can be fitted with ROPs, possibly demountable, to perform Troop Carrier role. 2. C2 may support a variety of roles based on the C2 variant, including Unit and Sub-Unit Command Post and the basis for Forward Information Systems Team (FIST) which may have additional requirements. | Info/Advice | | |
| 258 | 2.1 | UTILITY VEHICLE - MEDIUM: GENERAL SERVICE VARIANT | | | | | | | | Heading | |
| 259 | 2.1-01 | The Primary role of the UV-M General Service variant is to provide mobility for General Quartermaster Stores to convey combat supplies and stores from combat support units to consumer units, general administration and non-personnel resource movement. | | | N/A | N/A | | | Info/Advice | | |
| 260 | 2.1-02 | The UV-M General Service variant should consist of a single cab for the Driver and the Co-driver and a cargo space for carrying cargo and specialist modules. | | | N/A | N/A | | Specialist Module could include Troop Carrier ROP | Info/Advice | | |
| 261 | 2.1-03 | The UV-M General Service variant should carry personnel, stores and equipment with estimated masses and volumes as detailed in Annex C. | Personnel, stores and equipment with estimated masses and volumes as detailed in Annex C. | Any other accepted system as agreed with similar fit, form and function with minimum of 10 percent increase in payload. | 1 | N/A | Analysis | | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement shall be achieved. | |
| 262 | 2.1-04 | The UV-M General Service variant may be capable of being fitted for the carriage of one folded standard NATO litter stretcher. | Fitted for the carriage of one folded standard NATO litter stretcher. | Any other accepted system better than MOP Threshold as agreed with similar fit, form and function. | 3 | N/A | Analysis | | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). | |
| 263 | 2.1.1 | General Service Vehicle Variant Capacity | | | | | | | | Heading | |
| 264 | 2.1.1-01 | The UV-M General Service variant should have a single cab for personnel as stated. | 2 personnel | 3 personnel | 1 | N/A | Design Review | Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. Use profile = combat supplies, unit echelons. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement shall be achieved. | |
| 265 | 2.1.1-02 | The UV-M General Service variant should have a cargo space for carrying stores, fuel, water, ammunition and general stores in non bulk packaging. | Cargo space for carrying stores, fuel, water, ammunition and equipment in non bulk packaging, as per ANNEX C. | Better than MOP Threshold cargo space carrying stores, fuel, water, ammunition and equipment in non-bulk packaging. | 1 | N/A | Analysis | | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement shall be achieved. | |
| 266 | 2.1.1-03 | The UV-M General Service variant may provide a cargo space capable of carrying configured load as specified. | Ability to carry 1 x NATO Pallet, Complying with Annex C Payload. | Ability to carry 2 x NATO Pallets or Tricon 6.5 Mini ISO. | 3 | N/A | Design Review | Tricon container has external dimensions of: 6' 5½" (1.97m) long, 8'.0" (2.44m) high, and 8'.0" (2.44m) wide. Tare Weight is 2,986 lb (1,354 kg) Note: Weight of Tricon and locks eats into payload. Constraint is the weight of Tricon and tie-down system reducing payload. | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). | |
| 267 | 2.1.1-04 | The UV-M General Service variant should provide access to the cargo in such a way as to allow the operators and crew to unload it without the use of mechanical handling equipment. | 1. All tasks required in or on the vehicle and all equipment is accessible and operable by the 5th to 95th percentile of both genders anthropometric ranges. 2. Wearing in-service body armour and helmet, webbing. | Better than MOP Threshold with integral MHE and the ability to accommodate 3rd to 97th percentile of both genders' anthropometric ranges. | 1 | N/A | Demonstration | Complying with Mission Profile, working in 1st line Echelon environment; loading, cross loading and unloading is done by hand. | Requirement | Please explain (using words, diagrams, and/or photographs) how compliance with this requirement is be achieved. | |
| 268 | 2.1.1-05 | The UV-M General Service variant should provide a weatherproof flexible cover for the payload that can be fitted/removed within the specified times and states. | To be stored on the vehicle. Removal in 15 minutes with on-vehicle hand tools. | Better than MOP Threshold and to be stored on the vehicle with no loss of deck space. Removal in 15 minutes with no tools. | 1 | N/A | Design Review | Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. | Requirement | Please explain options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |

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|------------|-----------|---|--|--|---------------|---------------|---------------------|--|-------------|---|
| 269 | 2.1.1-06 | The UV-M General Service variant should provide side load restraints matched to the vehicle payload. | 1. Sideboards, headboard and a tail gate 2. Side and tail gate can fold down. 3. Suitable rated tie-down points. | Better than MOP Threshold and with sideboards and tailgate to be stored on the vehicle. | 1 | N/A | Design Review | Only if required (dependant on body type). | Requirement | Please explain options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 270 | 2.1.1-07 | The UV-M General Service variant should provide cargo space capable of carrying payload weight as specified. | A minimum of 3000 kg. | Greater than 3000 kg. | 1 | N/A | Design Review | Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. | Requirement | Please confirm the payload your vehicle can carry. |
| 271 | 2.1.3 | General Service Vehicle – Troop Carrying Role | | | | | | | | |
| 272 | 2.1.3-01 | The secondary role of the UV-M General Service variant is as a Troop Carrier to provide mobility for eight to ten NZDF personnel. | | | N/A | N/A | | As a role kit with appropriate Roll Over Protection (ROP). Number of passengers will depend on the vehicle weight capacity. | Info/Advice | |
| 273 | 2.1.3-03 | The UV-M GS Variant in the Troop Carrier role should provide a module with the specified number of seats in the cargo space. | Total of ten personnel including the Driver and Co-driver, i.e. 8 seats in the rear cargo space. | Total of twelve personnel including the Driver and Co-driver, i.e. 10 seats in the rear cargo space. | 1 | N/A | Analysis | Module will only be fitted on selected vehicles, not the whole General service fleet. - All General Service vehicles could be fitted for, but not with. - Solution could have folding seats. - Module will require appropriate attachment points to vehicle. - All solutions must comply with mandatory ROP standard. Require responses on what if anything has previously been fitted for troop carrying. Note we are looking to carry Pers in Light Order without full Field Service Marching Order (FSMO), i.e. not Full kit. | Requirement | Please explain options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 274 | 2.1.3-07 | The UV-M General Service Variant should be able to be configured to provide voice communications between the driver compartment and the rear compartment. | Allow direct unaided verbal voice communications between drivers compartment (Vehicle Cab) and rear compartment(if fitted). | | 1 | N/A | Inspection | Troops in the rear must be able to give updates of situation awareness and high level comms. Will consider alternatives if natural voice communication is not suitable. | Requirement | Please explain options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 275 | 2.1.3-09 | The UV-M General Service variant in Troop Carrier role should have the ability to charge external batteries. | Quantity x two 24VDC, for radio and ancillary Batteries, See Annex D for SWAP-C of battery charger. | | 1 | N/A | Design Review | Objective may include option to plug the soldier into the vehicle to enable battery charging and use of radios carried on the person. | Requirement | Please show examples of where charger could be mounted (using words, diagrams, and/or photographs) and how compliance with this requirement is achieved and any tests undertaken that demonstrate this. |
| 276 | 2.3 | UTILITY VEHICLE - MEDIUM COMMAND and CONTROL (C2) VARIANT | | | | | | | | |
| 277 | 2.3-01 | The role of the UV-M C2 variant is to provide a mobile command and control (C2) platform which is capable of providing Command Post (CP) functions while static 'at the halt' (i.e. when stationary) and limited communications on the move. The UV-M C2 variant includes 2 different role configurations: 1. Command Post 2. Forward Information Support Team (FIST) Command Post configuration: Workstations in the rear are seats and table for laptop use by two personnel. There is preference for a C2 configuration that permits swift and easy reconfiguration to the FIST sub-variant (perhaps by folding tables, sliding seats, or similar). Will also need to have a permanently installed HVAC if reconfigurable to FIST. FIST Configuration: A sub-variant of the Command and Control (C2) platform which houses the Forward Communications Access Node (FCAN) instead of rear workstations. It requires brackets and a system for securely holding and cushioning FCANs and a HVAC (for cooling FCANs). Reconfiguration to a Command Post also desirable. | | | N/A | N/A | | Further comment - options could be: A. Double cab for 4 (or 5) personnel while moving, and workstations for 2 personnel (at the halt) in an enclosed "C2 pod" (behind the cab) to employ comms systems and a laptop or similar for staff planning. As C2 Pod only used at the halt, only the Cab requires ROPS; or B. Single cab for 2 personnel with a C2 pod (behind the cab) for an additional 2 or 3 personnel which provides seating and access to radio comms On The Move, and workstations for staff planning at the Halt. In this configuration both Cab and C2 Pod require ROPS. Major communications equipment will be GFE (see ANNEX D). | Info/Advice | |
| 278 | 2.3-02 | The UV-M C2 variant should have role kits fitted or be able to be re-fitted for the specified functions. | Internally powered role kits include: a. Command Post. b. Forward Information Systems Team (FIST). | | N/A | N/A | | Base model for each role is the C2 variant SWAP-C (to be provided by the Contractor). How C4I capabilities will be integrated is still being worked through. | Info/Advice | |
| 279 | 2.3-03 | The UV-M C2 variant should be able to carry at least four personnel together (preferably 5) with the equipment required to carry out various functions including Command Post for Unit or Sub Unit HQ, FIST detachment to support large HQ, or a Command Tactical group. | | | N/A | N/A | | | Info/Advice | |
| 280 | 2.3.1 | C2 Vehicle Variant Capacity | | | | | | | | |

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|------------|-----------|---|--|---|---------------|---------------|---------------------|---|-------------|--|--|
| 281 | 2.3.1-01 | The UV-M C2 variant should accommodate a minimum of four personnel including the driver and co-driver. | Four personnel including the driver and co-driver. | Five personnel including the driver and co-driver. | 1 | N/A | Design Review | | Requirement | Please explain options you can offer (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 282 | 2.3.1-02 | The UV-M C2 variant should carry personnel, stores and equipment with estimated masses and volumes as detailed in Annex C Payload. | Stores and equipment with estimated masses and volumes as detailed in Annex C Payload. | Any other accepted system as agreed with similar fit, form and function with a minimum of 10 percent increase in payload. | 1 | N/A | Design Review | Payload will ideally fit on the vehicle, however accept that some of the payload may need to go on a trailer. | Requirement | Please explain options you can offer (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 283 | 2.3.1-03 | The UV-M C2 variant should be able to tow an NZDF in-service trailer to carry generator, heating, air conditioning equipment and command post general equipment. | Can tow a trailer to carry generator, heating, air conditioning equipment and command post general equipment. Weight as per SR 1.2.4-01. | | 1 | N/A | Design Review | Able to plug trailer generator into C2 vehicle when at the halt only. | Requirement | Please explain options you can offer (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 284 | 2.3.1-04 | The UV-M C2 variant 'C2 Pod' should provide sufficient height to enable personnel to comfortably work at seated workstations (when used as a Command Post). | Interior height to allow personnel to-work seated in the rear compartment. Up to 95th percentile male personnel, complying with Annex E. | Additional rear compartment height, to allow up to 97th percentile male personnel to work comfortably seated at workstations in C2 Pod, when vehicle at halt. | 1 | N/A | Design Review | - If your proposed solution is UV-M single cab with C2 Pod on rear then Roll Over Protection (ROPS) for C2 Pod required, along with seat belted positions. - Must be safe to operate with respect to Centre of Gravity (COG) and Static Rollover Threshold - Note that 25 mm needs to be added to sitting heights quoted in Annex E, to account for personnel wearing regulation issue helmets. | Requirement | Please explain options you can offer (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 285 | 2.3.1-05 | The UV-M C2 variant 'C2 Pod' may have an increased interior height to enable personnel to stand in the rear compartment. | Interior height to allow personnel to stand in the rear compartment. Up to 95th percentile male personnel complying with Annex E. | Additional rear compartment height, to allow up to 97th percentile male personnel to stand in C2 Pod, when vehicle at halt. | 3 | N/A | Design Review | Must be safe to operate WRT Centre of Gravity (COG), Roll Over Protection (ROPS) and Static Rollover Threshold. Could be same body as ambulance if it features a raised roof. Could be a separate ROPS Pod system. A summary of NZDF anthropometric data is in Annex E to this SoR (DTA 3750/D0520). Note that 25 mm needs to be added to all heights (sitting and standing) quoted in Annex E, to account for personnel wearing regulation issue helmets. | Requirement | If this is a [costed] option you can offer, please provide dimensions, diagrams and/or pictures. Please also note impact on Centre of Gravity (COG) and Static Rollover Thresholds, and provide any test results (if available) to support this. | |
| 286 | 2.3.1-06 | The UV-M C2 FIST role configuration shall have a Heating, Ventilation and Air Conditioning (HVAC) unit capable of maintaining FCAN equipment at operational temperatures. | A HVAC that can maintain FCAN equipment at operational temperatures, complying with MIL-STD-810. | | 1 | N/A | | HVAC is mandatory for vehicles hosting FCAN equipment (and optional for other C2 vehicles). Cooling on the move and at the halt is required for FCAN equipment which is putting out 686 watts plus on the move and 1800 watts at the halt. On the move the power is 24V DC, and at the halt power is externally provided 230V AC. Respondents will need to ensure their HVAC can operate on both 24V DC vehicle power and externally provided 230V AC (either generator or main supply). | Requirement | Please provide details of the proposed HVAC capability for 'FIST role configured' C2 vehicles. | |
| 287 | 2.3.1-07 | The UV-M C2 Command Post role configuration could have a HVAC fitted. | A HVAC that has the capability to provide a comfortable working environment for workstation operators in C2 Command Post configuration, and (if role converted) can maintain FCAN equipment at operational temperatures, complying with MIL-STD-810. | | 2 | N/A | | HVAC is mandatory for vehicles hosting FCAN equipment. It is desirable for C2 vehicles in the Command Post role. The HVAC solution offered for the Command Post vehicles should be identical to the FIST configuration. | Requirement | Please provide [costed] HVAC capability for 'Command Post role configured' C2 vehicles. | |
| 288 | 2.3.3 | C2 Vehicle Variant Seating | | | | | | | | Heading | |
| 289 | 2.3.3-01 | The UV-M C2 variant should provide seating for two personnel in the front compartment (cab), with space for a End User Device (EUD) holder, mount (e.g. arm) viewable by driver and useable by co-driver. | Seating for driver and co-driver. | | 1 | N/A | Design Review | | Requirement | Please explain options you can offer (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 290 | 2.3.3-02 | The UV-M C2 variant, when on the move , should provide ROPS compliant seating for personnel to the rear of the driver and co-driver's seats e.g. rear cab seats in 4 door cab variant; in C2 Pod (if proposing single cab). | Suitable seating for two personnel. | Suitable seating for three personnel. | 1 | N/A | Design Review | Access to radio communications are required on On-The-Move. | Requirement | Please explain options you can offer (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 291 | 2.3.3-03 | The UV-M C2 variant, in the role configuration of a Command Post, should provide seating and workstations (giving the ability to use a laptop, e.g. fold out table/tray or alternative) for at least two personnel. | Suitable seating and workstations for two personnel. | Suitable seating and workstations for three personnel. | 1 | N/A | Design Review | Full command and control functionality from workstations (i.e. operate a laptop or tablet) is required at the halt. | Requirement | Please outline options you can offer for achieving this requirement (using words, diagrams, and/or photographs). | |
| 292 | 2.3.3-04 | The UV-M C2 variant in the role configuration of a Command Post, can be easily reconfigured to become a FIST variant (and vice versa). | Seating and workstations in the rear of the vehicle can be easily removed , and FCAN shock absorbing mounts (and FCANs) installed (and vice versa). | Seating and workstations in the rear of the vehicle can be folded away or stowed , and FCAN shock absorbing Mounts (and FCANs) installed (and vice versa). | 2 | N/A | Design Review | | Requirement | Please outline [costed] options what you can offer for achieving this requirement (using words, diagrams, and/or photographs). | |
| 293 | 2.3.4 | C2 Vehicle Variant Fittings for Command Post Mission Role | | | | | | | | Heading | |
| 294 | 2.3.4-03 | All outward facing windows of the UV-M C2 variant should be equipped with devices which, when selected, should prevent any interior light being visible from any position outside the vehicle. | Blackout curtains, or other solutions (e.g. hard covers), that prevent interior light being visible from any position outside the vehicle. | | 1 | N/A | Certification | | Requirement | Please explain available options (using words, diagrams, and/or photographs) and confirm they will achieve compliance with the requirement. | |

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| Serial num | Rqmt. No. | System Requirement or Constraint | Minimum Requirement (Measure of Performance (MoP) Threshold) | Objective (exceeds Threshold) | UV-M Priority | UV-L Priority | Verification Method | Remarks | Object Type | EVIDENCE / RESPONSE REQUIRED | |
|------------|------------|---|---|---|---------------|---------------|---------------------|--|----------------|--|--|
| 295 | 2.3.4-04 | The UV-M C2 variant may be fitted with a blackout facility between the driver/ Co-driver and passenger compartments that does not allow any visible light to be detected through the windscreen, at night, 20 m forward of the vehicle, by a standing person wearing Generation III Night Vision Goggles when the passenger compartment lights are set to the maximum illumination setting. | No visible light to be detected through the windscreen, at night, 20 m forward of the vehicle, by a standing person wearing Generation III Night Vision Goggles when the passenger compartment lights are set to the maximum illumination setting. | | 3 | N/A | Design Review | | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs) | |
| 296 | 2.3.4-05 | The rear cabin of the UV-M C2 variant should be fitted with lighting such that the illumination on the work station is greater than the minimum for reading circuit diagrams defined in the standard. | Complying with defined standard. | | 1 | N/A | Design Review | As defined in Table XV of MIL-STD-1472F Department of Defence Design Criteria Standard: Human Engineering 23 Aug 99. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and confirm they will achieve compliance with the requirement. | |
| 297 | 2.3.4-06 | The UV-M C2 variant may provide the ability to fit cup holders for all occupants in the rear compartment. | Ability to fit cup holders. | | 3 | N/A | Design Review | Will be fitted to selected vehicles only. Please provide a response on what if anything has previously been fitted. | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). | |
| 298 | 2.3.4-07 | The UV-M C2 variant could provide storage for folders and A4 sized publications. | Storage for folders and A4 sized publications. | | 2 | N/A | Design Review | Please provide a response on what if anything has previously been fitted, e.g. under desk drawer, lockable containers, safe and whether offered as costed options. | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). | |
| 299 | 2.3.4.1 | C2 Vehicle Variant (Command Post and FIST) Comms Panel Opening | | | | | | | Heading | | |
| 300 | 2.3.4.1-01 | The UV-M C2 variant should be fitted with a suitable weatherproof panel (with flap) to allow the cables from the radio and other systems (e.g. FCAN) to pass through the hull without degradation of the hull integrity. | Respondent to provide agreed best option for consideration of ease of connection between equipment (e.g. FCAN) in vehicle and equipment in a temporary headquarters for a Battalion / Regiment or Company / Squadron. This includes ability to enable 55mm Fibre cable (for NEA CUBS equipment) to pass through hull. | Additionally provide cable trays and cable fastening (e.g. hook and loop) for fibre optic, Ethernet data cables and 240V AC generator power cables between the Comms panel opening and the FCAN location. | 1 | N/A | Test | Panel size to be sufficient to allow pass through of power, fibre, and data cables (10+) e.g. 250 x 200 mm or greater. Individual connector diameter of up to 55mm. Size and positioning of the panel to be confirmed as part of design process. | Requirement | Please provide outline of proposed communications aperture and options to where it could be mounted (using words, diagrams, and/or photographs). | |
| 301 | 2.3.4.1-02 | The Comms panel opening of the UV-M C2 variant could be fitted in close proximity to the FCAN equipment (or similar), if installed. | Comms panel is situated close to where FCAN, or similar equipment, would be placed in vehicle. | | 2 | N/A | Inspection | (Aperture close to comms equipment) | Requirement | Please provide outline of proposed communications aperture and options to where it could be mounted (using words, diagrams, and/or photographs). | |
| 302 | 2.3.4.1-04 | The comms panel opening of the UV-M C2 variant should have two earth lugs on the exterior face connected to the vehicle earth system. | Earth lugs provided as specified. | | 1 | N/A | Demonstration | | Requirement | Please confirm your solution will comply. | |
| 303 | 2.3.4.2 | C2 Vehicle Variant (Command Post and FIST) Electrical Power | | | | | | | Heading | | |
| 304 | 2.3.4.2-01 | While stationary, with the vehicle engine turned off, the UV-M C2 variant should provide sufficient power for all fitted and hosted C2 Systems (FCAN in standby mode) and equipment for a defined period of time. | As determined by Sub-System Power Requirements Analysis and Complying with NEA fit out as stated in Annex D and ANNEX G. Operate off ancillary Batteries for minimum period of 45min. | Any other accepted system better than MOP Threshold as agreed with similar fit, form and function. Operate off ancillary Batteries for minimum period of 90min. | 1 | N/A | Design Review | Comms 'At The Short Halt' (engine off) and 'On The Move' but there is a need for 'quick halt comms' and comms during step up CP set up. Full C2 function at long halt supplied by external generator (GFE as NEA CCPOE).30 percent margin added as an objective for power demand increases over time. See Annex D. Scope to introduce Smart Energy Devices to supply power to sensors, radio, through use of on-board systems. | Requirement | Please explain options you are offering and confirm your solution can meet, or exceed either the MoP Threshold, or Objective measure. | |
| 305 | 2.3.4.2-02 | The UV-M C2 batteries should have sufficient charge to start the vehicle's engine after the 'engine off short halt'. | No less than 45 minutes at start state of no less than 80% battery charge. | No less than 90 minutes at start state of no less than 80% battery charge. | 1 | N/A | Analysis | | Requirement | Please explain (using words, diagrams, and/or photographs) how you propose to achieve compliance with this requirement and any tests undertaken that demonstrate this. | |
| 306 | 2.3.4.2-03 | The UV-M C2 variant should be able to be connected to the NZ 240V AC Multiple Earth Neutral (MEN) supply system to provide power to C2 equipment with vehicle engine off. | A weatherproof connection system - at a minimum an opening in body (with sock), with ability to pass 240V AC power cable through. | Single CEE Form 240V AC 16AMP 3 pin inlet IP44 connector mounted externally on the vehicle, with the same plug rated at 16 AMPS (or equivalent) on the inside. | 1 | N/A | Design Review | Preference is for this to be installed and inspected in NZ due to NZ Electrical Safety Regulations 2010 requirements and relevant Standards for both NZ MEN supply system and NZDF Generator supply. | Requirement | Please explain options you can offer (using words, diagrams, and/or photographs) and how you propose to get this certified in NZ. | |
| 307 | 2.3.4.2-04 | The UV-M C2 could recharge the batteries to a point where a second 45 minutes engine off short halt comms may be conducted, within a defined time, of completing the first 45 minute period. | Recharge time not exceeding 2 hours, engine running at high idle, using internal 'on board' batteries only. | Recharge time not exceeding 1 hour, engine running at high idle, using internal 'on board' batteries only. | 2 | N/A | Analysis | | Requirement | Please explain options you can offer (using words, diagrams, and/or photographs) how you propose to achieve compliance with this requirement and any tests undertaken that demonstrate this. | |
| 308 | 2.3.4.2-05 | The UV-M C2 variant alternator should have output as stated. | Not less than 100Amps at idle. | 180Amps or greater at idle. | 1 | N/A | Analysis | Load plan calculated from C2 fit as highlighted in Annex D. | Requirement | Please explain (using words, diagrams, and/or photographs) how you propose to achieve compliance with this requirement and any tests undertaken that demonstrate this. | |

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|------------|-------------|---|--|--|---------------|---------------|---------------------|---|----------------|--|--|
| 309 | 2.3.4.2-06 | The UV-M C2 may provide a Power Management System as stated. | GVA compliant to manage all power related functions of the vehicle Including: a. importing/exporting of power b. generating power from the vehicle c. distributing around the vehicle d. power levels of vehicle batteries e. power levels of mission batteries f. manual input control. | 1. GVA compliant to manage all power related functions including import/export of power, generation of power, distribution and storage. 2. Semi-automated control with pre-set options. | 3 | N/A | Demonstration | | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). | |
| 310 | 2.3.4.2-07 | The UV-M C2 variant could have additional 24 V power plugs to power C2 equipment. | Two outlets, additional to SR 2.3.4.2-01 above, please declare the current rating of the available outlets. | Four outlets, additional to SR 2.3.4.2-01 above, please declare the current rating of the available outlets. | 2 | N/A | Design Review | | Requirement | Please explain (using words, diagrams, and/or photographs) how you propose to achieve compliance with this requirement. | |
| 311 | 2.3.4.2-08 | The UV-M C2 variant could be fitted with an override switch to allow the rear compartment lights to remain on when operating in blackout mode and the door is opened. | Override switch to allow the rear compartment lights to remain on when operating in blackout mode and the door is opened. | Any other accepted system better than MOP Threshold as agreed with similar fit, form and function. | 2 | N/A | Design Review | | Requirement | If proposed in your solution, please explain (using words, diagrams, and/or photographs) available options. | |
| 312 | 2.3.4.2-09 | The UV-M C2 variant may be fitted with a blackout facility between the driver/ Co-driver and passenger compartments that does not allow any visible light to be detected through the windscreen, at night, 20 m forward of the vehicle, by a standing person wearing Generation III Night Vision Goggles when the passenger compartment lights are set to the maximum illumination setting. | No visible light to be detected through the windscreen, at night, 20 m forward of the vehicle, by a standing person wearing Generation III Night Vision Goggles when the passenger compartment lights are set to the maximum illumination setting. | Any other accepted system as agreed with similar fit, form and function. | 3 | N/A | Design Review | | Requirement | If proposed in your solution, please explain (using words, diagrams, and/or photographs) available options. | |
| 313 | 2.3.4.3 | C2 Vehicle Variant Stowage | | | | | | | Heading | | |
| 314 | 2.3.4.3-01 | The UV-M C2 variant may provide stowage for an auxiliary generator set. | Can be stowed on vehicle. | | 3 | N/A | Demonstration | This auxiliary generator would be an opportunity load, restrained on the open floor space, with no specific generator storage location or weight allocation needed. The main generator would be on trailer as external towed GenSet as part of NEA CCPOE Project. | Requirement | If you are offering this option, please explain (using words, diagrams, and/or photographs) possible locations for stowage of an auxiliary generator set. | |
| 315 | 2.3.4.3-02 | If the generator set is fitted then the UV-M C2 variant may provide stowage for one additional in-service 20 litre fuel jerry can NSN 7240-99-802-2405 for the generator fuel. | Can be stowed on vehicle. | | 3 | N/A | Demonstration | As above | Requirement | If proposed in your solution, please explain (using words, diagrams, and/or photographs) available options for externally storing the fuel can. | |
| 316 | 2.3.4.3-03 | The UV-M C2 variant could provide stowage for two Clarke Masts and antennas with their associated CES. | Equipment specified in this requirement can be stowed on vehicle | Equipment specified can be stowed on the vehicle. Additionally the Clark Masts and Antenna are protected from damage. | 2 | N/A | Design review | Further details on the Clarke mast (provided as GFM) can be found in Annex G. | Requirement | If proposed in your solution, please explain (using words, diagrams, and/or photographs) options you are offering, including the features in your solution that protect the Clarke Masts and antennae from damage. | |
| 317 | 2.3.4.3-06 | The UV-M C2 variant should be fitted with the specified number of antenna mounts. | Four mounts, include appropriate mounting locations. | Ability to have Six mounts, include appropriate mounting locations | 1 | N/A | Inspection | See ANNEX D for further details | Requirement | Please explain (using words, diagrams, and/or photographs) options and how you propose to achieve compliance with this requirement. | |
| 318 | 2.3.4.3-07 | The UV-M C2 variant could provide access to the roof for stowage of equipment on the roof as detailed in Annex C. | Complying with Payload at Annex C (antennae and masts). | With options for additional stowage. | 2 | N/A | Design Review | | Requirement | If proposed in your solution, please explain (using words, diagrams, and/or photographs) available options. | |
| 319 | 2.3.4.4 | FIST Vehicle Variant Stowage | | | | | | | Heading | | |
| 320 | 2.3.4.4-01b | The UV-M C2 variant in the role of a Forward Information Support Team (FIST) vehicle will operate in conjunction with an UV-M C2 variant in the role of a Command Post vehicle and in support of a unit or sub-unit HQ (Battalion/Regiment and Company/Squadron). Both configurations will operate in support of a static relocatable tented HQ. A C2 vehicle in a FIST role variant will house a Forward Communications Access Node (FCAN) which consists of deployable servers, switches and IT components installed in two shock-mounted cases (either two 10RU cases; or one 10RU and one 5RU case). The Standard Operating Procedures (SOP) allow for the FCAN to remain in the FIST vehicle, or to be removed to operate from within the tented HQ depending on situation, duration of HQ, or notice to move. | | | N/A | N/A | | Note that a C2 Variant vehicle, in a FIST role must still meet requirements 2.3.3-01 and 2.3.3-02, namely seating for at least four personnel, when on the move. | Info/Advice | | |
| 321 | 2.3.4.4-01 | The Forward Information Support Team (FIST) Vehicle should provide space for two (2) ECS 10RU cases each measuring no less than 23.3" (height) x 24" (depth) 15.7" (width) | Ability to take 2 ECS 10RU cases (SWAP-C) | Ability to take 3 ECS 10RU cases (SWAP-C) | 1 | N/A | Design Review | See ANNEX D for ECS 10RU specifications. These contain the FCAN SWAP-C requirements. Also see ANNEX G for link to additional FCAN information, including images and power requirements. Note FCAN requires 5 lines of 24V DC power to each 10RU Case. | Requirement | Please explain options you can offer (using words, diagrams, and/or photographs) to achieve compliance with this requirement. | |
| 322 | 2.3.4.4-02 | The FIST Vehicle spatial envelope for each ECS 10RU case suite should be capable of withstanding a load of 53 kg. | Ability to take 2 ECS 10RU cases (SWAP-C). | ability to take 3 ECS 10RU cases (SWAP-C) | 1 | N/A | | Tie down points/racking or bracket system needed to secure 53kg ECSs. | Requirement | Please explain options you can offer (using words, diagrams, and/or photographs) and how they achieve compliance with this requirement. | |

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|------------|-------------|--|--|--|---------------|---------------|---------------------|---|----------------|--|
| 323 | 2.3.4.4-04 | Each ECS 10RU case shall be securely held and shock isolated (if required) . | Securing and Shock isolating (if further required) each case in vehicle being used in battlefield day. | | 1 | N/A | | The ECS 10RU cases have internal shock mounts for their equipment racks. Notwithstanding overall shock minimisation is the responsibility of the vehicle Contractor. Potentially all C2 variants have brackets in/on the floor to secure (and further cushion if required) the ECS 10RU cases. | Requirement | Please explain options your can offer (using words, diagrams, and/or photographs) and how these achieve compliance with this requirement. |
| 324 | 2.3.4.4-05 | The FIST Vehicle operators should have ready access the front and rear of the stowed ECS 10RU cases. | Access the front and rear of the stowed ECS 10RU cases, to enable connection of cables so it can be operated. | | 1 | N/A | | | Requirement | Please explain (using words, diagrams, and/or photographs) options and how you propose to achieve compliance with this requirement. |
| 325 | 2.3.4.4-06 | Requirement Deleted | | | | | | | | N/A |
| 326 | 2.3.4.4-09 | Requirement Deleted | | | | | | | | N/A |
| 327 | 2.4 | UTILITY VEHICLE - MEDIUM AMBULANCE VARIANT | | | | | | | Heading | |
| 328 | 2.4-01 | The role of the UV-M Ambulance variant is to conduct combat operations personnel medical evacuation. | | | N/A | N/A | | The Ambulance variant is intended for the Medical Evacuation role (not Casualty Evacuation). For Medical Evacuation, a medic needs to travel in the rear with the patients. The rear body must also carry other medical equipment (e.g. Patient Monitor, Suction Device, O ₂ Concentrator and fluid warmer). The rear bodywork must comply with the NZDF Roll Over Protection Structure (ROPS) requirements. | Info/Advice | |
| 329 | 2.4.1 | Ambulance Vehicle Variant Capacity | | | | | | | Heading | |
| 330 | 2.4.1-01(a) | The UV-M Ambulance variant will restrain the recumbent patients in the event of a rollover. | In accordance with the stated standard. | | M | N/A | | Recumbent patient restraint standard is detailed in Section 2 of AS/NZS 4535:1999 Ambulance Restraint Systems. Further details in Annex G. This standard is proposed for withdrawal, however, remains the extant requirement. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |
| | 2.4.1-01(b) | The UV-M Ambulance variant will restrain the seated patients in the event of a rollover. | In accordance with the stated standard. | | M | N/A | | Seated patient restraint is per requirement 1.1.1-03 (NZDF ROPS EDSPEC-0001C). | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |
| 331 | 2.4.1-02 | The UV-M Ambulance variant should carry personnel as stated, in addition to casualties noted below. | Minimum three personnel, including Driver, Co-driver and one Medical Assistant. | Four personnel, including Driver, Co-driver and two Medical Assistants. | 1 | N/A | Design Review | Complying with current best clinical practice See also Complying with SR 2.4.1-01 above. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |
| 332 | 2.4.1-03 | The UV-M Ambulance variant should be capable of accommodating the specified number of casualties on stretchers or seated. | Two casualties on stretchers or one stretcher and up to four seated casualties. | | 1 | N/A | Design Review | Complying with current best clinical practice. See also Complying with SR 2.4.1-01 above. Consider restraint of casualty as key. Stretcher details are in Annex G. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |
| 333 | 2.4.1-04 | The UV-M Ambulance variant should be capable of accommodating the Medical Assistant seated at the head of stretcher bound casualties. | Minimum one medical assistant. | Can accommodate two medical assistants seated in the rear at the head of stretcher bound casualties. | 1 | N/A | Design Review | This includes suitable restraints (see requirement 1.1.1-01) and rollover protection (as per NZDF rollover protection Structure (ROPS) requirement - see 1.1.1-03) | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |
| 334 | 2.4.1-05 | The UV-M Ambulance variant could have a higher interior roofline to allow Medical Assistant to treat patients on stretchers in the rear compartment. | Rear compartment height to accommodate standing personnel up to 95th percentile male personnel, complying with Annex E. Add 25 mm for helmet. | | 2 | N/A | Design Review | Consider the ability for C-130 Air Transportable (requirement 1.2.3.3-01) Complying with this System Requirement set. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |
| 335 | 2.4.1-06 | The UV-M Ambulance variant should carry personnel, stores and equipment with estimated masses and volumes as detailed in Annex C Payload. | Mass and volume Complying with Annex C, estimated payload calculations. This includes a 200kg allowance for Medical CES. | In excess of Annex C without compromising Payload, Mobility or Protection. | 1 | N/A | Design Review | See Ambulance Medical CES in Annex G | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |
| 336 | 2.4.2 | Ambulance Vehicle Variant Communications | | | | | | | Heading | |
| 337 | 2.4.2-02 | The UV-M Ambulance Variant should be configured to provide internal voice communications between the drivers compartment and the rear compartment. | Allow direct unaided verbal voice communications between vehicle cab and rear compartment. | Alternative mechanism(s) to enable voice communications between the driver's compartment and the rear compartment. | 1 | N/A | Inspection | Medical assistant (in the rear) must be able to give updates of medical interventions such as IV cannulation so the crew know to slow, stop or steady the vehicle during such a procedure. This may be via a sliding window in the back of the cab or a voice only system. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |
| 338 | 2.4.3 | Ambulance Vehicle Variant Doors & Hatches | | | | | | | Heading | |
| 339 | 2.4.3-01 | The UV-M Ambulance variant should have a rear access opening of sufficient width. | No part of a casualty on a NATO stretcher prepared for evacuation with any of the medical equipment listed in Annex C, makes contact with the opening while being loaded and unloaded. | | 1 | N/A | Analysis | Complying with Annex C Payload. Can be external but will require appropriate security provisions. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |
| 340 | 2.4.3-02 | Loading and unloading of up to two casualties on a NATO stretcher into the UV-M Ambulance variant should be able to be accomplished by four personnel as stated. | Able to be accomplished by 5th to 95th percentile both gender personnel. | Able to be accomplished by 3rd to 97th percentile both gender personnel. | 1 | N/A | Analysis | May be achieved using mechanical advantage type loading system reducing the need for four people for loading/unloading. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |

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| Serial num | Rqmt. No. | System Requirement or Constraint | Minimum Requirement (Measure of Performance (MoP) Threshold) | Objective (exceeds Threshold) | UV-M Priority | UV-L Priority | Verification Method | Remarks | Object Type | EVIDENCE / RESPONSE REQUIRED |
|------------|------------|---|---|--|---------------|---------------|---------------------|--|-------------|---|
| 341 | 2.4.3-03 | The UV-M Ambulance variant should be fitted with a patient loading system to accommodate the primary and secondary patients. | Accomplished by no more than four personnel and 5th to 95th percentile both gender personnel. | Able to be accomplished by 3rd to 97th percentile both gender personnel. Stretchers able to be loaded into stowage locations on each side. | 1 | N/A | Design Review | May be achieved using mechanical advantage type loading system. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |
| 342 | 2.4.4 | Ambulance Vehicle Variant Fittings For Mission Role | | | | | | | | |
| 343 | 2.4.4.1 | Ambulance Vehicle Variant Lighting | | | | | | | | |
| 344 | 2.4.4.1-01 | The UV-M Ambulance variant may be fitted with an emergency red flashing beacon for an emergency vehicle and siren. | Compliant with NZTA Land Rule Vehicle Lighting 2004, Section 11 and Vehicle Equipment 2004. Siren able to select between two tones (e.g. wail, yelp) via a non-latching switch in reach of the left seat passenger. | Exceeds NZTA compliance (number of beacon sounds). | 1 | N/A | Design Review | Amber or blue lights are not allowed on NZ ambulances. Controls within reach of both driver and front left seat passenger. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how you propose to achieve compliance with this requirement. |
| 345 | 2.4.4.1-02 | The UV-M Ambulance variant could be fitted with a rear mounted external work light. | White light only. Beam spread and power output such that stretched casualties can be viewed and loaded into the rear of the vehicle at night. | Both IR and white light. Beam spread and power output such that stretched casualties can be viewed and loaded into the rear of the vehicle at night. | 2 | N/A | Design Review | | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). |
| 346 | 2.4.4.1-03 | The UV-M Ambulance variant external work light(s) could be mounted below the roof line of the vehicle. | Mounted below the roof line in a location that cannot be damaged by vegetation while the vehicle is travelling in the forward direction. | Mounted so that it cannot be damaged by vegetation while the vehicle is travelling in the forward or reverse direction. | 2 | N/A | Design Review | | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs) |
| 347 | 2.4.4.1-04 | The UV-M Ambulance variant should have internal lighting such that the illumination level is as stated. | When measured in the plane of the primary or secondary stretcher surface at the head, hip and foot of a 95th percentile both gender casualty should be no less than 300 lux. | Greater than 300 lux. | 1 | N/A | Design Review | | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 348 | 2.4.4.1-05 | The UV-M Ambulance variant rear compartment should provide blue blackout lighting. | Switch near the rear door and the Medical Assistant's seat same as SR 1.4.7.2.3-03. | Better than MOP Threshold, e.g. Auto switch on rear door. | 1 | N/A | Design Review | | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 349 | 2.4.4.1-06 | The UV-M Ambulance variant could be fitted with an override switch to allow the rear compartment lights to remain on when operating in blackout mode and the rear door is opened. | Override switch is controlled by medical assistant. | Override switch is controlled by the driver | 2 | N/A | Design Review | Will be fitted to selected vehicles only. Require responses on what if anything has previously been fitted. | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). |
| 350 | 2.4.4.1-07 | All outward facing windows of the UV-M Ambulance variant should be equipped with devices which, when selected, should prevent any interior light being visible from any position outside the vehicle. | All outward facing windows. | Other means than blackout curtains. | 1 | N/A | Certification | | Requirement | Please explain available options (using words, diagrams, and/or photographs). |
| 351 | 2.4.4.1-08 | The UV-M Ambulance may be fitted with a blackout facility between the driver/ co-driver and passenger compartments that does not allow any visible light to be detected through the windscreen, at night. | 20 m forward of the vehicle. | Greater distance then 20m. | 3 | N/A | Design Review | | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). |
| 352 | 2.4.4.2 | Ambulance Vehicle Variant Central Oxygen System | | | | | | | | |
| 353 | 2.4.4.2-02 | The UV-M Ambulance variant oxygen system should allow two "D" size oxygen cylinders with pressure regulator to be carried at any time. | Allow at least one in-service "D" size oxygen cylinder with pressure regulator to be carried internally and connected at all times. | Allow 2 "D" size cylinders to be carried internally. | 1 | N/A | Design Review | Cylinders are GFE. Details in Annex G | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 354 | 2.4.4.2-03 | The UV-M Ambulance variant should be capable of being fitted with an oxygen concentrator. | Fitted for but not with at least one oxygen concentrator. | | 1 | N/A | Design Review | Concentrator will be GFE. Details are in Annex D. This is an alternative to a "D" size oxygen cylinder, and would need to be able to fit in the " D" size oxygen cylinder space. | Requirement | Please confirm you can comply (or not) with this requirement. |
| 355 | 2.4.4.3 | Ambulance Vehicle Variant Waste Storage | | | | | | | | |
| 356 | 2.4.4.3-02 | The UV-M Ambulance variant could be able to be fitted with an internal receptacle suitable for storing general rubbish. | With a volume of at least 10 litres, that can be lined with a general rubbish bag. | Volume of greater than 10 litres | 2 | N/A | Design Review | | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 357 | 2.4.4.3-03 | The UV-M Ambulance variant could be able to be fitted with an internal, sealed, receptacle suitable for storing contaminated medical waste. | With a volume of at least 10 litres, that can be lined with a contaminated waste bag. | Volume of greater than 10 litres. | 2 | N/A | Design Review | See Annex G for further info | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 358 | 2.4.4.3-04 | The UV-M Ambulance variant could be able to be fitted with a small sharps container safely and securely mounted, internally. | In a location that does not require the Medical Assistant to carry sharps across the body of a casualty when depositing them in the container. Easy to be emptied without compromising safety. | Any other accepted system better than MOP Threshold as agreed with similar fit, form and function. | 2 | N/A | Design Review | See Annex G for further info | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 359 | 2.4.4.4 | Ambulance Vehicle Variant Electrical Power | | | | | | | | |
| 360 | 2.4.4.4-01 | The UV-M Ambulance variant should provide power from the vehicle electrical system for operating and recharging medical equipment. | 12V DC and 24V DC outlet for Minimum of 1x portable suction apparatus, 1x automatic casualty monitoring device, O2 concentrator, fluid warmer. | Other 12V - 24V DC medical equipment including; 2x portable suction apparatus, 2x automatic casualty monitoring device, 2x ventilator. | 1 | N/A | Design Review | Complying with ANNEX D | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |

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|------------|------------|---|---|--|---------------|---------------|---------------------|---|-------------|--|--|
| 361 | 2.4.4.5 | Ambulance Vehicle Variant Stowage | | | | | | | | Heading | |
| 362 | 2.4.4.5-01 | The UV-M Ambulance variant interior could be able to provide a key lockable drugs compartment with a volume of no more than 2 litres. | Suitable rollover protected restraint. | Better than MOP Threshold | 2 | N/A | Design Review | Complying with Annex C Payload Complying with current best clinical practice | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 363 | 2.4.4.5-02 | The UV-M Ambulance variant interior could be able to provide safe and secure stowage for the medical stores and equipment. | Suitable rollover protected restraint. | Better than MOP Threshold | 2 | N/A | Design Review | See Annex G for further info Complying with Annex C Payload | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 364 | 2.4.4.5-04 | The UV-M Ambulance variant could provide safe and restrained stowage of the personal weapons of the casualties. | For MARS-L in-service personnel weapon in rollover certified restraint. | Better than MOP Threshold. May be externally mounted but must be lockable. | 2 | N/A | Design Review | Complying with Annex C Payload. Can be external but will require appropriate security provisions. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 365 | 2.4.4.5-05 | The UV-M Ambulance variant CES carried externally have provisions for safe and secure stowage. | Suitable rollover protected restraint | | 1 | N/A | Design Review | Complying with Annex C Payload | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 366 | 2.4.4.5-06 | The UV-M Ambulance variant could provide secure stowage space for, personal webbing and MARS-L personal weapon of up to 5 casualties. | Secure stowage space provided | | 2 | N/A | Design Review | Complying with Annex C Payload With exception of MARS-L may be externally mounted. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 367 | 2.4.4.5-08 | The UV-M Ambulance variant could provide access to the roof for stowage of equipment on the roof as detailed in Annex C. | Complying with Payload at Annex C (i.e. portable stretchers). | With options for additional stowage. | 2 | N/A | Design Review | Complying with Annex C Payload | Requirement | If included in your solution, please explain (using words, diagrams, and/or photographs) available options. | |
| 368 | 2.4.4.5-09 | The UV-M Ambulance variant portable medical equipment should be able to be mounted in the vehicle in a safe, secure manner such that they can be operated by the Medical Assistant on the casualty located on the primary stretcher. | Places for equipment identified and suitable rollover protection restraints provided. | | 1 | N/A | Design Review | Complying with Annex C Payload For medical equipment stated in SR 2.3.4.4-01 Mounted medical equipment includes: Zoll Propaq MD and Laerdal LCSU4 | Requirement | Please explain where the medical equipment will be mounted and the restraints that will be provided to protect this equipment in the event of the vehicle rolling over. | |
| 369 | 2.4.5 | Ambulance Vehicle Variant Towing | | | | | | | | Heading | |
| 370 | 2.4.5-01 | The UV-M Ambulance variant could have a removable towing pintle that can be stowed on the vehicle. | Fitted and removed from the UV-M/L by an operator using hand tools only. | Fitted and removed from the UV-M/L by an operator without use of tools. | 2 | N/A | Design Review | | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). | |
| 371 | 2.4.6 | Ambulance Vehicle Variant Other | | | | | | | | Heading | |
| 372 | 2.4.6-01 | The UV-M Ambulance variant should have an impervious, hygienic interior that can be cleaned and disinfected at the completion of a casualty evacuation mission. | Impervious, hygienic interior common across all interior body surfaces that can be cleaned and disinfected at the completion of a casualty evacuation mission. Includes drainage plugs, minimal or no traps for fluids. | | 1 | N/A | Design Review | | Requirement | Please describe (using words, diagrams, and/or photographs) the design features to achieve this requirement, with a particular emphasis on linings and coatings that assist the cleaning and disinfecting process. | |
| 373 | 2.4.6-02 | The UV-M Ambulance variant should be marked with red cross symbols such that the vehicle can be identified on the battlefield as an ambulance from any direction. | Vehicle can be identified on the battlefield as an ambulance from any direction. | | 1 | N/A | Design Review | | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 374 | 2.4.6-03 | The UV-M ambulance red cross symbols should be capable of being covered or reversed. | Red cross symbols should be capable of being covered or reversed. | | 1 | N/A | Design Review | The red cross symbols are capable of being covered up, if/when the vehicle is used for non- ambulance purposes. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |
| 375 | 2.4.6-04 | The UV-M Ambulance variant may be able to provide space for a analogue clock mounted in the rear compartment in a location that allows the Medical Assistant to read hours, minutes and seconds when working on a casualty. | Room to fit a GFE supplied clock that is more than 20 cm wide. | | 3 | N/A | Design Review | | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). | |
| 376 | 2.5 | UTILITY VEHICLE - MEDIUM MAINTENANCE SUPPORT VARIANT | | | | | | | | Heading | |
| 377 | 2.5-01 | The role of the UV-M Maintenance Support variant is to support integral and close forward maintenance support in order to carry out light and up to medium grade repair in the field. The vehicle will carry technicians, light tools, support test and equipment, and limited spare parts. | | | N/A | N/A | | | Info/Advice | | |
| 378 | 2.5-03 | The UV-M Maintenance Support variant can be based on the double cab General Service or 'Hard body' type variant chassis. | | | N/A | N/A | | Twin cab type | Info/Advice | | |
| 379 | 2.5.1 | Maintenance Support Variant Capacity | | | | | | | | Heading | |
| 380 | 2.5.1-01 | The UV-M Maintenance Support variant should accommodate up to four personnel including the driver and co-driver. | Four personnel including the driver and co-driver. | N/A | 1 | N/A | Design Review | | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. | |

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|------------|---------------|--|--|--|---------------|---------------|---------------------|--|----------------|--|
| 381 | 2.5.1-02 | The UV-M Maintenance Support variant should carry personnel, stores and equipment with estimated masses and volumes as detailed in Annex C Payload. | Stores and equipment with estimated masses and volumes as detailed in Annex C Payload. | Any other accepted system as agreed with similar fit, form and function with a minimum of 10 percent increase in payload. | 1 | N/A | Design Review | See Annex G for details of stowage box dimensions | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 382 | 2.5.1-07 | The UV-M Maintenance Support variant may have an external workbench that is fitted to the vehicle and can be folded up inside or on the vehicle side. | Workbench size 2 m x .75 m. | Workbench size 2.5 m x 1 m. | 3 | N/A | Design review | Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). |
| 383 | 2.5.1-08 | The UV-M Maintenance Support variant may provide for a collapsible external awning to cover workbench and work area. | 1. 4 m x 3 m. 2. Capable of being folded and stowed onto the side of vehicle within 15 minutes. 3. When folded does extend the width of the vehicle. | Any other accepted system better than MOP Threshold as agreed with similar fit, form and function. | 3 | N/A | Design Review | Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. | Requirement | Does your vehicle currently provide this feature? If so, please explain available options (using words, diagrams, and/or photographs). |
| 384 | 2.5.1-09 | The UV-M Maintenance Support variant may be fitted with a light crane capable of lifting vehicle assemblies. | Light crane or Davit system capable of lifting UV-M vehicle assemblies (250kg) at 2 metres. | Any other accepted system better than MOP Threshold as agreed with similar fit, form and function. | 3 | N/A | Inspection | Depending on payload and stowage balance. | Requirement | If included in your solution, please explain (using words, diagrams, and/or photographs) any available [costed] options. |
| 385 | 2.5.3 | Maintenance Support Variant Fittings For Mission Role | | | | | | | Heading | |
| 386 | 2.5.3.1 | Maintenance Support Variant Lighting | | | | | | | Heading | |
| 387 | 2.5.3.1-01 | The UV-M Maintenance Support variant could be fitted with external mounted work lights. | Both white light. Beam spread and power output such that equipment being repaired can be viewed and loaded into the vehicle at night. | Both IR and white light. Beam spread and power output such that equipment being repaired can be viewed and loaded into the vehicle at night. | 2 | N/A | Design Review | | Requirement | If included in your solution, please explain (using words, diagrams, and/or photographs) available options. |
| 388 | 2.5.3.1-02 | The UV-M Maintenance Support variant external work light(s) could be mounted below the roof line of the vehicle. | Mounted below the roof line in a location that cannot be damaged by vegetation while the vehicle is travelling in the forward direction. | Mounted so that it cannot be damaged by vegetation while the vehicle is travelling in the forward or reverse direction. | 2 | N/A | Design Review | | Requirement | If included in your solution, please explain (using words, diagrams, and/or photographs) available options. |
| 389 | 2.5.3.1-03 | The UV-M Maintenance Support variant should have internal lighting such that the illumination level is as stated. | When measured in the plane of the work area should be no less than 300 lux. | Greater than 300 lux. | 1 | N/A | Design Review | | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 390 | 2.5.3.1-04 | The UV-M Maintenance Support variant rear compartment should provide blue blackout lighting. | Switch near the rear door. | Better than MOP Threshold, e.g. Auto switch on rear door. | 1 | N/A | Design Review | | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 391 | 2.5.3.1-05 | The UV-M Maintenance Support variant could be fitted with an override switch to allow the rear compartment lights to remain on when operating in blackout mode and the door is opened. | Override switch to allow the rear compartment lights to remain on when operating in blackout mode and the door is opened. | Any other accepted system better than MOP Threshold as agreed with similar fit, form and function. | 2 | N/A | Design Review | Require responses on what if anything has previously been fitted. | Requirement | If included in your solution, please explain (using words, diagrams, and/or photographs) available options. |
| 392 | 2.5.3.1-06 | All outward facing windows of the UV-M Maintenance Support variant should be equipped with devices which, when selected, should prevent any interior light being visible from any position outside the vehicle. | All outward facing windows. | Other means than Blackout curtains. | 1 | N/A | Certification | Depending on body type and work area fit-out. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 393 | 2.5.3.2 | Maintenance Support Variant Electrical Power | | | | | | | Heading | |
| 394 | 2.5.3.2-01 | The UV-M Maintenance Support variant should provide power from the vehicle electrical system for operating and recharging maintenance support tools and equipment. | 12V DC and 24V DC (10 Amp) outlet for Minimum of 2x external lamps, 2x power tool battery chargers, 1x vehicle battery charger and 1x air compressor. | Other 12V – 24V DC equipment including; 1x small cooler for Loctite products and extra 2x portable power tool charging. | 1 | N/A | Design Review | Carry generator or welding machine with charging capability Complying with Annex C Payload | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 395 | 2.5.3.3 | Maintenance Support Variant Stowage | | | | | | | Heading | |
| 396 | 2.5.3.3-01 | The UV-M Maintenance Support variant interior could be able to provide safe and secure stowage for the stores and equipment. | Suitable rollover protected restraints for stores and equipment. | | 2 | N/A | Design Review | Complying with Annex C Payload | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 397 | 2.5.3.3-06(a) | The UV-M Maintenance Support variant tools and equipment should be able to be mounted in the vehicle in a safe, secure manner such that they can be accessed externally (from outside of the vehicle). | Suitable rollover protected restraints for stores and equipment. | | 2 | N/A | Design Review | Complying with Annex C Payload | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 398 | 2.5.3.3-06(b) | The UV-M Maintenance Support variant could have an internal workbench. | 400mm x 500mm foldable workbench, with folding seat for stationary use only and light directly above workbench. | | 2 | N/A | Design Review | Complying with Annex C Payload | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 399 | 2.6 | UTILITY VEHICLE- LIGHT GENERAL SERVICE VARIANT | | | | | | | Heading | |
| 400 | 2.6-01 | The Primary role of the UV-L General Service variant is to provide mobility for General Quartermaster Stores to convey combat supplies and stores from combat support units to consumer units, general administration and non-personnel resource movement for platoon size groups of NZDF personnel. | | | N/A | N/A | | | Info/Advice | |
| 401 | 2.6-02 | The UV-L General Service variant should consist of a single cab for the Driver and the Co-driver and a cargo space for carrying cargo and specialist modules. | | | N/A | N/A | | | Info/Advice | |

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|------------|-------------|--|--|---|---------------|---------------|---------------------|--|-------------|--|
| 402 | 2.6-03 | The UV-L General Service variant should carry personnel, stores and equipment with estimated masses and volumes as detailed in Annex C. | Personnel, stores and equipment with estimated masses and volumes as detailed in Annex C. | Any other accepted system as agreed with similar fit, form and function with minimum of 10 percent increase in payload. | N/A | 1 | Analysis | Complying with Annex C (CES and operational load list) | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 403 | 2.6-04 | The UV-L General Service variant may be capable of being fitted for the carriage of one folded standard NATO litter stretcher. | Fitted for the carriage of one folded standard NATO litter stretcher. | Any other accepted system better than MOP Threshold as agreed with similar fit, form and function. | N/A | 3 | Analysis | See Annex G for details of stretcher. | Requirement | If included in your solution, please explain (using words, diagrams, and/or photographs) available options. |
| 404 | 2.6.1 | General Service Vehicle Variant Capacity | | | | | | | | |
| 405 | 2.6.1-01 | The UV-L General Service variant shall have a single cab for personnel as stated. | 2 personnel | 3 personnel | N/A | 2 | Design Review | Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 406 | 2.6.1-02 | The UV-L General Service variant shall have a cargo space for carrying stores, fuel, water, ammunition and equipment in non bulk packaging. | Cargo space for carrying stores, fuel, water, ammunition and equipment in non bulk packaging. | | N/A | 1 | Analysis | Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. General Quartermaster Stores to convey combat supplies and stores from combat support units to consumer units, general administration and non-personnel resource movement for platoon size groups of NZDF personnel. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 407 | 2.6.1-03 | The UV-L General Service variant could provide a cargo space capable of carrying configured load as specified. | Ability to carry 1 x NATO Pallet Complying with Annex C Payload. | Ability to carry 2 x NATO Pallets or Tricon 6.5 Mini ISO | N/A | 3 | Design Review | Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. Tricon container has external dimensions of: 6' 5½" (1.97m) long, 8'.0" (2.44m) high, and 8'.0" (2.44m) wide. Tare Weight is 2,986 lb (1,354 kg) Note: Weight of Tricon and locks eats into payload. | Requirement | If included in your solution, please explain (using words, diagrams, and/or photographs) available options. |
| 408 | 2.6.1-04(a) | The UV-L General Service variant should provide access to the cargo in such a way as to allow the operators and crew to unload it without the use of mechanical handling equipment. | 1. All tasks required in or on the vehicle and all equipment is accessible and operable by the 5th to 95th percentile of both genders anthropometric ranges. 2. Wearing in-service body armour and helmet, webbing. | Better than MOP Threshold with integral MHE and the ability to accommodate 3rd to 97th percentile of both genders' anthropometric ranges. | N/A | 1 | Demonstration | Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. Complying with Mission Profile, working in 1st line Echelon environment; loading, cross loading and unloading is done by hand. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 409 | 2.6.1-04(b) | The UV-L General Service variant should provide access to the cargo so it can be loaded and unloaded with mechanical handling equipment. | A NZDF forklift could load and unload palletised supplies and equipment of the back of the vehicle. | A NZDF forklift could load and unload palletised supplies and equipment of the back and sides of the vehicle. | N/A | 1 | Design Review | | Requirement | Please confirm (or not) that this requirement can be met. |
| 410 | 2.6.1-05 | The UV-L General Service variant should provide a weatherproof flexible cover for the payload that can be fitted/removed within the specified times and states. | To be stored on the vehicle. Removal in 15 minutes with hand tools. | Better than MOP Threshold and to be stored on the vehicle with no loss of deck space. Removal in 15 minutes with no tools. | N/A | 1 | Design Review | Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 411 | 2.6.1-06 | The UV-L General Service variant should provide side load restraints matched to the vehicle payload. | 1. Sideboards, headboard and a tail gate. 2. Side and tail gate can fold down. 3. All be stored on vehicle. | Better than MOP Threshold and with sideboards and tailgate to be stored on the vehicle with no loss of deck space. | N/A | 2 | Design Review | Only if required (dependant on body type) Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 412 | 2.6.1-07 | The UV-L General Service variant should provide cargo space capable of carrying payload weight as specified. | Payload as noted in ANNEX C, with certified tie downs. | Better than MOP with similar fit, form and function. | N/A | 1 | Design Review | Based on variant offered by respondent. Looking for advice on what is available or has been supplied to other users. | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 413 | 2.7 | UTILITY VEHICLE – LIGHT COMMAND AND LIAISON VARIANT | | | | | | | | |
| 414 | 2.7-01 | The role of the UV-L Command and Liaison Variant is to support Command, Liaison and Route Reconnaissance type tasks. It is likely that there will be two initial comms configurations, depending on roles, which can be described as Utility Light Liaison, and Utility Light Command. | | | N/A | N/A | | | Info/Advice | |
| 415 | 2.7.1 | Command and Liaison Variant Capacity | | | | | | | | |
| 416 | 2.7.1-01 | The UV-L Command and Liaison variant should carry personnel as stated. | 4 Personnel | 5 Personnel | N/A | 1 | Demonstration | | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 417 | 2.7.1-02 | The UV-L Command and Liaison variant could carry stores and equipment with estimated masses and volumes as detailed in Annex C. | Rollover certified stowage. | Any other accepted system better than MOP Threshold as agreed with similar fit, form and function. | N/A | 2 | Design Review | | Requirement | Please explain available options (using words, diagrams, and/or photographs) and how compliance with this requirement shall be achieved. |
| 418 | 2.7.3 | Role | | | | | | | | |
| 419 | 2.7.3.1 | Self Protection | | | | | | | | |

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|------------|------------|--|--|--|---------------|---------------|---------------------|--|-------------|--|
| 420 | 2.7.3.1-11 | The UV-L Command and Liaison variant could have sufficient storage capacity to stow quantities of ammunition as detailed in Annex C Payload. | Storage capacity as stated in Annex C. | Ability to store in excess of MOP Threshold. | N/A | 2 | Demonstration | The allocation for storage space and 126 kg payload for a non-vehicle mounted MAG 58 and ammunition is a nominal allocation that allows a margin for stowage and weight that may be used for any alternative mission payloads. | Requirement | Please explain (using words, diagrams, and/or photographs) options and how compliance with this requirement shall be achieved. |

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