

A-A-58028
25 JULY 1994

COMMERCIAL ITEM DESCRIPTION

TRUCK, FIRE FIGHTING, RESCUE (HAZARDOUS MATERIALS VEHICLE (HMF))

1. Abstract:

1.1 This Commercial Item Description (CID) describes a commercial chassis, diesel engine driven, automatic transmission, two wheel drive, five man cab, HMF. The HMF is intended to stow and transport hazardous materials response equipment for the purpose of mitigating chemical leaks, spills and releases in both on and off-road environments. The HMF is also intended to provide a work station area for the purpose of research, command, control, and communications. The HMF shall be an assembly of commercially available components and shall be equipped with commercially available tools and equipment.

1.2 When specified, an all wheel drive (4 X 4) chassis shall be provided.

2. Salient Characteristics:

2.1 The HMF shall be an assembly of new materials and shall be free of defects in design and construction which affects appearance, serviceability or durability. The HMF shall conform to the more stringent of state or federal laws applicable to a vehicle of this class and type. All components of the HMF shall be represented in the manufacturer's commercial sales literature as standard or optional equipment. The HMF shall meet the requirements of the criteria found in Chapters 1, 2, 3, 6-1, 6-3, 8-2, 9-10 and 9-12.1 (a) of NFPA 1901, Standard for Pumper Fire Apparatus, 1991 edition, as applicable to a vehicle of the configuration specified. Failure of the HMF to meet the following salient characteristics shall be cause for rejection of the offer. The HMF shall be provided with and/or meet all the following:

2.1.1 Performance. The vehicle shall:

a. Operate on paved and graded gravel roads. The 4 x 4 trucks shall also operate on off-road terrain.

Beneficial comments, recommendations, additions, deletions, clarifications, etc., and any data which may improve this document should be sent to: WR-ALC/TILBA, Robins AFB GA. 31098-5609

AMSC N/A

FSC 4210

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- b. Maintain a minimum speed of 55 MPH on a level, paved surface.
- c. Accelerate from stop to 50 MPH within 20 seconds on a level, paved surface.
- d. Maintain a minimum speed of 30 MPH while ascending an 8% paved grade.
- e. Maintain a minimum speed of 5 MPH while ascending a 20% paved grade. The 4 X 4 trucks shall maintain a minimum speed of 5 MPH while ascending a 30% paved grade.
- f. Have a wall to wall turning diameter of 70 feet, in both directions.
- g. Have approach and departure angles of not less than 17 degrees. The 4 X 4 trucks shall have an approach and departure angle of not less than 22.5 degrees.
- h. Operate in temperatures ranging from 0-degrees F to +125 degrees F.
- i. Minimize length, width and height, consistent with the operational performance and the design constraints necessary to achieve the specified performance. The HMV dimensions shall not exceed:

Length	360 inches	
Width	96 inches	
Height	124 inches	130 inches (4 X 4)

2.1.1.2 Chassis and Vehicle Components:

- a. The HMV shall have a Utility Body payload capacity of 8000 pounds, including the mast light (when specified), and shall have a minimum Gross Vehicle Weight Rating (GVWR) of 34,500 pounds.
- b. The diesel engine shall have the power necessary to meet or exceed the performance requirements stated herein. A driver controlled emergency engine shutdown shall be provided.
- c. Engine exhaust shall be directed away from the standing access positions to the equipment compartments.
- d. Provide dual parallel piped fuel filters.
- e. Provide an electric fuel priming pump.
- f. The HMV shall have a 12 volt electrical and starting system. The battery system shall be sized for cold crank starting the engine at -40 degrees F.
- g. Provide a single alternator charging system. The minimum alternator system output, at idle or high idle, shall exceed the total simultaneous operation of all electrical components by 10%.

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h. A high idle switch, that does not increase engine RPM's more than 25% above idle and does not exceed the manufacturer's recommendations, may be provided to increase alternator output to meet the maximum electrical load requirements. A lighted rocker switch, accessible from the driver's seated position, shall activate the high idle control unit. The high idle switch shall operate only when the vehicle is out of gear and the parking brake is engaged and shall automatically disengage if the transmission is placed in gear or the parking brake is released.

i. Provide a minimum 15 amp battery charger. The charger shall be powered from a recessed male, 120 volt, AC receptacle, with weatherproof cover located adjacent to the driver's door. A 2.5 inch charge meter shall be installed next to the AC receptacle. A minimum 25 foot long, three wire, 15 amp rated, 120 volt AC, power cable shall be provided.

j. Provide an air or air-hydraulic anti-lock brake system. The air system compressor shall have minimum 15 CFM capacity. Provide a checked, quick disconnect, air fitting located adjacent to the driver's door. The air fitting shall be connected to the chassis air system and designed to maintain system brake pressure while the vehicle is not running.

k. Single front and dual rear tires and wheels shall be provided. Tubeless steel radial tires shall be mounted on steel disc wheel assemblies. Tire and wheel assemblies shall be interchangeable at all positions. Tread design shall be of the nondirectional on-off highway service type.

l. (When 4 X 4 is specified). Single tires and wheels shall be provided on both the front and rear axles. Tubeless steel radial tires shall be mounted on steel disc wheel assemblies. Tire and wheel assemblies shall be interchangeable at all positions. Tread design shall be of the nondirectional off-road type.

m. An identical spare wheel and tire assembly shall be provided.

n. Provide a weatherproof, three door, five person cab with a wrap-around windshield and matching contour cab face. Cab door openings shall extend for the full vertical height of the side panels. Provide steps and grab handles at all cab doors. The driver's and adjacent seats shall be air suspension design.

o. The cab rear crew area shall be an arrangement of three work stations, each work station shall include: 32" wide X 20" deep with 18" clear space above, six feet of book storage shelving, and a permanently mounted swivel seat with backrest. Crew seats shall have retracting seat belts. Floor to ceiling height in the rear crew area shall be not less than 70 inches clear. The raised roof shall have visibility above the forward cab roof, to the sides, and to the rear through the recessed walkway of the utility body. Cab interior sound level shall not exceed 83 dBA, without warning devices in operation, at a steady speed of 45 MPH on a smooth, level, hard surface road.

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p. When specified, provide a cab air conditioning system. The system design shall cool a fully occupied cab to 80 degrees F. from 110 degrees F. For the purposes of air conditioner design, the work station electrical load is 500 watts each. Refrigerant shall be a non-Ozone Layer Depleting Substance (OLDS).

q. Provide an adjustable head, combination flat and convex, west coast style, heated outside rear view mirror on each side of the cab.

r. Provide a 12,000 pound-pull winch, recessed behind the front bumper. If extended, the top surfaces of the bumper, the space between the cab and bumper and a cover over the winch shall be fabricated of treadplate. The winch may be electric or hydraulic powered and shall have one or more forward and reverse speeds of not less than 15 feet per minute. The winch shall be wound with a minimum 125 feet of 3/8 inch galvanized aircraft cable, with 36 inch end chain and hook. A four way cable guide shall be provided. A minimum 10 foot remote control cable for operation of the winch shall be provided.

s. Provide dual air horns located behind and projecting through the front bumper. Air horns shall be activated by a steering wheel button and by a foot switch in front of the right front seat.

t. Provide a 20 Kilowatt (KW), 120/240 voltage, 60 hertz, power-takeoff (PTO) driven generator. Individual circuit breaker tripping or failure shall not affect operation of other active circuits. The PTO shall be activated from the driver's position and shall have a monitor light to indicate engagement. The PTO shall operate only when the vehicle is out of gear and the parking brake is engaged and shall automatically disengage if the transmission is placed in gear or the parking brake is released. A governor shall regulate engine speed to match the generator output to the connected load. Gauges shall monitor the operation of the generator system and indicate the connected load. Access for maintenance shall be provided above and below the generator.

u. An isolated power supply shall be provided for the on-board computer systems. A bank of four, parallel connected, 12 volt deep discharge batteries shall provide two 30 amp circuits to each work station. The battery bank shall be resupplied by an on-board variable rate charger connected to the PTO driven generator. Minimum charger output shall match the connected computer load.

2.1.3 Lights, warning devices and electrical circuits.

a. Provide a dedicated 12 volt, 15 amp circuit, with breaker and wire, routed between the driver and crew chief for a purchaser provided radio system.

b. Provide a dedicated 12 volt, 20 amp circuit, with breaker and wire, routed between the driver and crew chief for purchaser provided chargers for lanterns and portable radios.

c. Provide three dedicated 12 volt, 15 amp circuits, with breakers and wire, routed, one each, to the work stations for the connection of cellular phones.

d. provide a dedicated and switched 12 volt, 15 amp circuit, with breaker, connected to lights above each work station. The "ON"- "OFF" switch shall be placed at the central work station.

e. Provide a minimum 100 watt electronic siren with cab mounted amplifier unit capable of: volume control and selection of "Radio", 'PA.', "Manual", 'Yelp", "Wail" and 'Hi-lo" siren modes and shall have a two-way radio audio tap and microphone. A foot operated switch shall be provided for the crew chief. The siren speaker shall be recess mounted in the front bumper.

f. Provide a six element strobe type light bar with both forward and side facing strobe heads. The light bar shall be mounted on the cab roof and shall be masked in the direction of the raised roof forward window.

g. Provide a strobe light warning system; two front bumper mounted strobe lights, and six truck body strobe lights (side or side and rearward facing at each corner) . Each strobe light shall be flush mounted. All warning lights, intersection lights, and strobe lights shall be red color.

h. When specified, all red color warning, intersection and strobe lights shall be changed to all blue color. '

i. Provide an alternating flashing headlight system. High beam headlights shall flash alternately when activated by a lighted control switch. A solid state electronic flashing module shall control the alternating function.

j. Provide four 500 watt quartz halogen scene lights, two per side, as high as possible, and at opposite ends of the truck body. Lights shall be recessed into the upper body, and shall be vertically adjustable. Light enclosures shall be pitched for drainage, and shall permit air circulation. Provide access for removal or replacement of the light elements or complete light assemblies.

k. Switches for the strobe light systems, alternating headlights and scene lights shall be grouped together on the instrument panel or an overhead console, within reach of the seated driver, A master switch shall activate all warning light circuits. The master switch and warning light switches shall have integral or adjacent monitor lights to indicate activation.

l. When specified, provide an elevating light mast, with five 1500-watt "instant-on" halogen lights, that stores within the truck body. The light mast shall be of a free standing design, shall not require outriggers or guywires, and shall sustain a light mast tip load of 150 pounds force. The light mast shall be pneumatically powered to extend a minimum of 25 feet above the ground. The mast shall stop at any vertical height and the light head shall rotate 360 degrees. The light mast shall retract completely into a ventilated and drained compartment. Light power shall be provided from the 20 KW auxiliary generator.

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The lights and light mast shall be operable while standing on the ground. Pneumatic power for the light mast shall be supplied from the vehicle air brake compressor. If necessary, the air brake reservoir capacity shall be increased to fully extend the light mast without hesitation and without the air reservoir system falling below 80 PSI. Light mast controls shall include a permanently set air regulator, an air control valve, and a system air pressure gauge. The light system shall interlock to operate only while the engine is running. A red warning light shall flash continuously, in front of the driver, while the light mast is extended. The vehicle horn shall blow continuously, if the transmission is placed in gear or the parking brake is released while the mast is extended.

2.1.4 Utility Body:

a. Provide an all aluminum or all stainless steel utility body, with a minimum of 700 cubic feet of enclosed storage space. The utility body shall be structurally capable of supporting the inverted weight of the vehicle. The utility body shall have side, rear and roof compartments to maximize space.

b. The utility body roof and the roof compartment walkway shall be covered with treadplate. The walkway shall extend from the back of the cab to the rear of the utility body, with a depth and a width of not less than 30 inches. Provide weather resistant, gasketed cover, hatch style compartments. Hatch latches shall not present a tripping hazard.

c. Provide a walkway access ladder with non-slip handrails and rungs. Lowermost rung shall not interfere with the departure angle of the truck and shall be no more than 22 inches above level ground.

d. Retractable or folding steps shall be provided to assist crew members reaching equipment located on higher compartment shelves. Steps shall have automatic locking devices to secure steps in both extended and stored positions. Lowermost steps shall be no more than 22 inches above level ground.

e. Provide a storage compartment for a 14 foot, two section extension ladder. The storage compartment shall be located at the rear of the vehicle. Storage shall permit removal of the ladder by a firefighter standing on the ground.

f. Provide two pass through compartments with roll-out trays. Each roll-out tray length shall be the full interior width of the utility body, shall extend four feet from either side of the utility body, and shall support a 500 pound load. The roll-out trays shall be adjustable for incremental vertical height and slide out extension. Slide out adjustments shall be accomplished without the use of tools. Automatic latches shall secure the stowed trays and shall prevent over-travel when fully extended.

g. Compartment floors shall be accessible to crew members standing on the ground. The compartment floor areas shall support a minimum load of 700 pounds without permanent deflection.

h. Where the side roll-up door compartments do not extend below the top of the chassis frame rails, provide one or more underside compartments on each side of the vehicle, from the front of the utility body to the rear axle wheelhouse opening and extending down to the nominal (12 degree) interaxle clearance point. Open underside compartment doors shall not interfere with access to the above compartments. Push button latches shall not be used.

i. Provide adjustable and removable compartment shelves for every 18 inches of each vertical compartment door opening. Shelving adjustments shall require no more than common hand tools, and shall not require disassembly of fasteners. Shelves shall support a minimum 200 pounds without permanent deflection.

j. Provide clear anodized aluminum, counterbalanced, non-locking, roll-up doors for side and rear compartments. Door latch handles shall be full-width bar type. Door straps shall be provided to assist in closing the compartment doors when the rolled up door height exceeds six feet above the ground.

k. Provide a replaceable scuffplate for each compartment door threshold, for the prevention of body damage from sliding equipment, in and out of the compartment. The scuffplate shall be attached with flush headed capscrews and secured with nuts.

l. Provide drip rails over each compartment door.

m. Provide a tube-type light bar with a clear and shatterproof protective cover at each compartment door opening. The lights shall be arranged vertically in the side and rear compartments and horizontally in the hatch compartments. The light bar shall illuminate each compartment, above and below the shelves. Lights shall activate automatically only when the compartment doors open. A lighted master switch for compartment lights shall be provided inside the cab, grouped with the warning light switches.

n. Provide a cylinder rack for storage of eight SCBA one-hour bottles. The cylinder rack shall be vertical or angled to retain bottles in the carrying position. Cushioning, slide guides, and restraining straps shall be provided to prevent damage to cylinders when loading or removing. The cylinder rack shall be located in a compartment.

o. Provide two air hose reels, equipped with 150 feet of .50 inch inside diameter hoseline. One hose reel shall be ceiling mounted in a compartment on each side of the vehicle. A four-way roller guide shall be provided for each hose reel to prevent hose chafing and kinking. Hoselines shall be equipped with rubber ball stops to prevent hose pull through on roller guides during rewinding operations. A 3/8 inch NPT fitting and female style quick disconnect shall be connected to the end of each hoseline. Each hose reel shall have an electric rewind motor and provisions for manual rewind in the event of motor failure. A

pressure protected air supply from the chassis air system shall be connected to the hose reels. The air supply lines shall be routed with minimum bends and located or guarded from damage from the carried equipment.

p. Provide two electric cable reels, equipped with 200 feet of 20 amp, 600 volt, 90-degree centigrade insulated electrical cable. one electrical cable reel shall be ceiling mounted in a compartment on each side of the vehicle. Electrical cables shall be provided with twistlock plugs and receptacles. A four-way roller guide shall be provided for each cable reel to prevent chafing of cable insulation. Electrical cables shall be equipped with rubber ball stops to prevent cable pull through on roller guides during rewinding operations. A weatherproof duplex outlet box, with built-in circuit breakers, shall be connected to each cable end. Each cable reel shall have an electric rewind motor with provisions for manual rewind in the event of motor failure.

q. Provide four 120 volt AC, 20 amp rated, electrical outlets, two each at the rear of the vehicle, and one each on opposite sides of the vehicle. Each outlet shall provide two twistlock and two conventional outlets. Each outlet shall have a weatherproof cover.

r. Provide a lighted license plate bracket at the left rear of the vehicle.

2.1.5 Finish:

a. Exterior surfaces of the vehicle shall be primed and top-coated with a commercial polyurethane finish. The finish color shall be Red, Number 11136, Lime Yellow, Number 13670, or Forest Green, Number 24052, of FED-STD-595, as specified at time of purchase.

b. With Red or Lime Yellow finish colors, the cab upper body (from the bottom of windshield up), the upper utility body along the common line with the cab, and the cab roof shall be painted White, Number 17875 of FED-STD-595. Interior compartment surfaces shall be finished in accordance with manufacturer's commercial practice. A horizontal reflective band shall be applied around the truck in an approximate plane with the headlights. Offsets in the band shall be made to maximize the length of reflective surface. The reflective band may be interrupted where bright metal trim or tread plate occurs. The reflective band pattern shall be ten inches wide with three white reflective stripes; one inch white reflective, one inch body color, six inches white reflective, one inch body color, and one inch white reflective. All chrome or polished metal parts, hinges, treadplate, and roll-up compartment doors shall not be painted.

c. When Forest Green finish color is specified, all surfaces, including all normally bright metal and the interior surfaces visible with any compartment door open, shall be painted. A four inch wide horizontal black reflective band shall be applied around the truck in an approximate plane with the headlights. Offsets in the band shall be made to maximize the length of reflective surface.

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3. Regulatory Requirements:

3.1 The offeror/contractor is encouraged to use recovered materials in accordance with Public Law 94-580 to the maximum extent possible.

3.1.1 For the purpose of this requirement, recovered materials are those materials which have been collected from solid waste and processed to become a source of raw materials, as distinguished from virgin raw materials. The components, pieces and parts incorporated in the vehicle may be newly fabricated from recovered materials to the maximum extent practicable, provided the vehicle produced meets all other requirements of this CID. Used, rebuilt or remanufactured components, pieces and parts shall not be incorporated.

4. Contractor Certification:

The contractor shall certify and maintain substantial evidence that the product offered meets the salient characteristics of this commercial item description, and that the product conforms to the producer's own drawings, specifications, standards, and quality assurance practices. The government reserves the right to require proof of such conformance prior to the delivery and thereafter as may be otherwise provided for under the contract provisions.

5. Market Acceptability:

5.1 Commercial. The vehicle furnished must be, as of the date of award, the latest model, with minor modifications, (as that term is defined in DOD FAR Supplement 252.211-7012, Paragraph K-85 of the solicitation) of an established product previously produced and sold commercially (exceeding the criteria of FAR 15.804-3(f) (2) (ii) (A)) for at least two years immediately preceding the issuance date of the solicitation. The vehicle furnished, or earlier models of it, absent minor modifications, shall have been supported with spares/repair parts which were produced or sold in the normal course of business. At the time of delivery, the contractor shall furnish the Administrative Contracting Officer with verification of compliance with these requirements. Offerors shall provide, as part of their proposals, the following information on the vehicle (or its earlier models) being offered as a commercial item:

(1) Total sales to the U.S. Government or to the contractors for U.S. Government use during the two years immediately preceding the solicitation issuance date.

(2) Total sales of the item to the general public during the two years immediately preceding the solicitation issuance date.

(3) Length of time the item has been sold in the commercial market place.

(4) Points of contact and phone numbers of customers to which the item has been sold in the commercial market place.

(5) Other pertinent information necessary to determine that the item is an established commercial item.

6. Packaging, Packing, and Marking:

Unless otherwise provided in the contract, the truck shall be prepared for delivery by common carrier. An identification plate, permanently marked, shall be securely mounted at the driver's compartment. The identification plate shall contain the following information:

NOMENCLATURE
 MANUFACTURER'S MAKE AND MODEL
 MANUFACTURER'S SERIAL NUMBER
 REGISTRATION NUMBER
 NATIONAL STOCK NUMBER (NSN)
 VEHICLE CURB WEIGHT: kg(pounds)
 PAYLOAD, MAXIMUM: kg(pounds)
 GROSS VEHICLE WEIGHT (GVW): kg(pounds)
 GROSS COMBINATION WEIGHT RATING: kg(pounds)
 DATE OF DELIVERY (month and year)
 WARRANTY (month and km(miles))
 CONTRACT NUMBER
 US PROPERTY

7. Contractor Requirements:

7.1 The contractor shall provide at the time of delivery two sets of manuals, including operation, maintenance and parts with each truck delivered. The parts manuals shall list the contractor's component part numbers and the component and equipment manufacturer's part numbers, as applicable. Manuals shall be provided for review 30 days prior to the time of demonstration. The contractor shall provide with each truck a product familiarization video tape that verbally and visually provides the users with all information required for operation and routine maintenance of the vehicle and its components, using the commercial manuals as a baseline;

7.2 Testing:

7.2.1 The first production truck shall be demonstrated for Air Force review, prior to delivery, for compliance with the requirements of this CID, the referenced documents, and tests 7.2.3 through 7.2.6, by the Contractor, at his facility. All production trucks shall perform tests 7.2.3 and 7.2.6.

7.2.2 Failure to comply with the requirements of the CID, reference documents, or the tests identified herein shall be cause for reconfiguration and retest. Causes for reconfiguration shall include: structural failure; misalignment or interference between components; conditions presenting a safety hazard to the user or maintainer; instability in handling during on and off-road operation; spillage of fuel or coolant; and/or overheating.

7.2.3 Examination of product. A check list of specific requirements from the CID and reference documents shall be compared to the final configuration of the vehicle. Where specific certifications are required, copies shall be provided to the Air Force.

7.2.4 Performance test. The top speed, acceleration, braking, gradeability and the turning diameter, of 2.1.1, of a fully loaded vehicle shall be demonstrated. If site conditions do not exist for gradeability, calculations will be accepted.

7.2.5 Sound test. Sound reading shall be taken at the inside and outside ear level of each seated position to demonstrate compliance with 2.1,2.m.

7.2.6 Operational test. Each compartment floor and shelf shall be uniformly loaded to the individual maximum design capacity, up to a total of 8000 pounds. Each cab seat shall be loaded with 200 pounds. The fully loaded truck shall be driven over 10 miles of paved and ten miles of off-road terrains. All loads shall be removed and all surfaces inspected for permanent deflection.

8. Options:

8.1 The purchaser shall specify the following at time of purchase:

- a. If all wheel drive (4 X 4) is required, (see paragraph 1.2)
- b. If an air conditioning system is required, (see paragraph 2.1.2.p) .
- c* Color of warning lights (red or blue lens), (see paragraph 2.1.3.h) .
- d. If an elevating light mast is required, (see paragraph 2.1.3.1) .

Finish color of vehicle (Red, Lime Yellow or Forest Green), (see paragraph 2.1.5.a).

CUSTODIAN:
AIR FORCE - 99

PREPARING ACTIVITY:
AIR FORCE - 84

Project Number: 4210-0494

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER

A-A-58028

2. DOCUMENT DATE (YYMMDD)

94 JULY 25

3. DOCUMENT TITLE

TRUCK, FIRE FIGHTING, RESCUE (HAZARDOUS MATERIALS VEHICLE (HNV))

4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

5. REASON FOR RECOMMENDATION

6. SUBMITTER

a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)

7. DATE SUBMITTED (YYMMDD)

(1) Commercial

(2) AUTOVON
(if applicable)

8. PREPARING ACTIVITY

a. NAME

WR-ALC/TILBA

b. TELEPHONE (Include Area Code)

(1) Commercial
(912) 926-0642

(2) AUTOVON
468-0642

c. ADDRESS (Include Zip Code)

255 SECOND STREET
ROBINS AFB GA 31098-1637

IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:

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