

**Bid Waiver Form** 

Short Description of Goods/Services	Upgrade and refurbishment of the DCSO HDU large response vehicle.	Total Cost	\$149,020	
Vendor Name	Reliant Fire Apparatus, Inc.	MUNIS #	27591	Req # TBD
Purchasing Officer	Pete Patten	Date	11/18/2021	
Department	Dane County Sheriff's Office	Email	immel.charles@danesheriff.com	
Name	Charles Immel	Phone	608-284-6150	

#### \*A VENDOR QUOTE MUST BE ATTACHED TO THE WAIVER FOR APPROVAL\*

Provide a detailed description of the goods/services intended to be purchased:

The funds for this project have been awarded in full through a Wisconsin Emergency Management, ALERT Grant to the Dane County Sheriff's Office (DCSO), Hazardous Devices Unit (HDU). The funds will be used to upgrade and refurbish the unit's large response vehicle, which is 17 years old and nearing the end of it's service life.

There will be several structural changes to the vehicle itself, in order to extend it's service life and to ensure that it is suitable to operate in addition to making it more functional and effective when dealing with hazardous devices. First, the chassis area will be re-designed with updated electronics, which are essential to power, charge and maintain required equipment. Existing lighting packages will be completely removed and re-wired with 12 volt, LED lights to ensure personnel have the needed emergency lights and zone-type, scene lighting, which is essential to increase safety and visibility during high-risk situations. In addition to lighting, the exhaust system and box frame will need to be redesigned/replaced with new parts and in a new configuration in order to ensure the structural stability of the vehicle and allowing for additional personnel from it's current capacity of two (2). In addition, the chrome exterior will be coated with a black, bedliner substance to combat and prevent rusting.

The refurbishment and upgrade will include new, under body steps, which will increase safety to technicians, when entering/exiting the vehicle in full protective gear. The head lamps will be replaced in order to bring them into compliance with DOT Regulations. The generator will need to be removed and re-designed in order to limit exhaust fumes located directly next to the entrance/exit door of the box. The roof area of the vehicle has a large hole from previous work and several areas leak, which allows water to enter the interior of the box every time it rains. The refurbishment will professionally fix and seal the roof area, thereby reducing any risks of mold developing. Additionally, numerous areas of damage to the body and exterior storage units will allow for the utilization of these area and will make the space more efficient and effective. The vehicle currently utilizes one of these storage spaces for gas/diesel, which is a required tool in disposal operations. The area is contaminated and the off-gases are toxic and overwhelming. In addition, we use a separate storage space for the collection and transportation of hazardous, volatile and explosive substances. The make-shift storage is not only unsafe, but it is not in compliance with ATF Regulations. Reliant has a long history of specializing in fire and military vehicles, which have specialized compartments for items such as this that are in complete compliance with dozens of specific and complicated federal, state and local laws. The storage areas will be custom-built and be mounted on extending rollers, which will make the space more functional and user-friendly. The storage areas will contain ATF compliant, custom-made day boxes to separate explosives and detonators per federal statutes.



# **Bid Waiver Form**

**Procurement Exception List** 

Emergency Procurement

Unique and specific technical qualifications are required

A special adaptation for a special purpose is required

A unique or opportune buying condition exists

Only one vendor possesses the unique and singularly available ability to meet the Department's requirements

Provide a detailed explanation as to why the competitive bidding (RFB/RFP) process cannot be used. Also provide a detailed justification in relation to the Procurement Exception(s) chosen:

The refurbishment and upgrade will include removing and re-wiring numerous current systems which are no longer functional or utilized. This will allow the electrical system to standardized and run on a master system, as opposed to the multiple, unidentified systems currently employed. The current system is not standardized, labeled or identifiable. When electrical issues arise, our current service provider (General Communications, Kayser) is unable to properly fix the item and routinely has to guess at what the problem could be. This results in the vehicle being out of service for extended periods of time due to repeated trips to the repair shop.

The refurbishment and upgrade will completely re-design and re-figure the interior box of the truck. This will include in-body lighting, updated heat/ac system, privacy tinting of windows and the custom creation of battery charging stations. HDU currently requires the use of a variety of specialized equipment, to include large platform robots and control systems, custom antennas, x-ray sources, processing and development systems in addition to Kevlar bomb suits with communications systems. These items are not standardized in shape/size for normal storage and cabinet spaces and need to have custom-made spaces in order to properly store, charge, utilize and maintain in good working order. Reliant customizes interiors for other disciplines such as fire and military equipment, which faces the same challenges as HDU. The refurbishment and upgrade will also include a new digital video recording system, which requires the unique ability to interface the recorder and server with specialized large platform robots systems.

In summary, HDU has a variety of specialized equipment, which requires custom-made spaces and interfacing capabilities in oder to properly function. There are several pieces of equipment we possess or may be required to use, which are classified with federal security clearances from the FBI. As such, it is essential to have a contractor which has worked with the federal government in areas such as this and possess the knowledge of the requirements we have and how our equipment needs to be stored and utilized in order to be effective. Reliant Fire Apparatus has been awarded contracts to build a majority of vehicles for the U.S. Military and is extremely familiar with some of the issues we face in the bomb community. Due to their knowledge and experience, I would respectfully request a bid-waiver in order to utilize Reliant Fire Apparatus as the contractor for this project.

Bid Waiver Approval (For Purchasing Use Only)			
Under \$37,000 (Controller)			
□ \$37,000+ (Personnel & Finance Committee)	Date Approved:		

# **Dane County Sheriff Command unit** Madison, WI

Estimate for refurbishment of:

# **One (1) – 7500 GMC HDR**

Date: August 05, 2021 Quote is good for 90 days

Prepared by: Alan Boushley



PIERCE MANUFACTURING, INC.

MIDWEST REGIONAL SERVICE CENTER

816 COMMERCIAL AVENUE \* WEYAUWEGA, WI 54983 \* (920) 867-2142

Pierce Manufacturing, Inc. is pleased to submit to the **Dane County Sheriff Command Unit** a estimate for the refurbishment of your **7500 GMC HDR.** The following paragraphs will describe in detail the apparatus additions and modifications proposed.

#### **QUALIFICATIONS**

**PIERCE MANUFACTURING** was incorporated in 1917. Since then we have been building bodies with one philosophy, "**BUILD THE FINEST**". Our skilled craftsmen take pride in their work, which is reflected, in the final product. We have been building fire apparatus since the early "forties" giving Pierce Manufacturing over 50 years of experience in the fire apparatus market. Our plant is located in Appleton, Wisconsin with over 474,000 total square feet of floor space situated on approximately 93 acres of land. A multi-million dollar inventory of parts is available to keep your unit in service long after it has left the factory.

The Pierce Refurbishment Center has achieved the very same reputation for fire apparatus repair and refurbishing. Located just 30 miles west of Appleton in Weyauwega, Wisconsin, the Pierce Refurbishment Center facility is dedicated exclusively to the refurbishing and repairs of all makes and models of fire apparatus and emergency vehicles. Pierce Manufacturing has produced fire apparatus for over 55 years and has been refurbishing apparatus for more than 35 years.

The 40,000 square foot Refurbishment Center has 16 well-equipped bays staffed by 52 certified, highly skilled mechanics. Fabrication and refinishing is done at the main manufacturing facilities to assure our customers the same fine quality that new Pierce apparatus is famous for.

#### **ISO COMPLIANCE**

The manufacturer will operate a Quality Management System under the requirements of ISO 9001. These standards sponsored by the "International Organization for Standardization (ISO)" specify the quality systems that will be established by the manufacturer for design, manufacture, installation and service. A copy of the certificate of compliance will be included with the bid.

#### SINGLE SOURCE MANUFACTURER

Pierce Manufacturing is a single source apparatus manufacturer. The definition of single source is a manufacturer that designs and manufactures their products using an integrated approach, including the chassis, cab and body being fabricated and assembled on the bidders premises. The warranties relative to the chassis and body design (excluding component warranties such as engine, transmission, axles, pump, etc.) will be from a single source manufacturer and not split between manufacturer (i.e. body and chassis).

#### WARRANTY

A separate warranty page detailing the warranty coverage will be provided with the proposal.

#### WELDING REQUIREMENTS

Pierce Manufacturing follows American Welding Society D1.1-96 standards for structural steel welding. All aluminum welding will be done to American Welding Society and ANSI D1.2-96

requirements for structural welding of aluminum. Flux core arc welding will use alloy rods, type 7000, American Welding Society standards A5.20-E70T1.

#### PAYMENT TERMS

Payment is to be made to Pierce Manufacturing, in full, within 30 days after completion and final acceptance.

#### **SHIPPING PRECAUTIONS**

The following shipping precautions must be completed before transportation of the fire department's apparatus to Pierce Manufacturing for refurbishment or repair. *Failure to complete the listed items below may result in additional costs to the fire department.* 

- 1. All water tanks, foam tanks, pumps, all inlets and discharge plumbing, all drains, and any other plumbing are to be completely drained prior to being driven or flat-bedded.
- 2. Strip down all loose equipment unless arranged with Pierce prior to shipping in order to make the repair process easier and to eliminate the potential for lost equipment while the unit is being refurbished or repaired.
- 3. All loose or potentially loose items should be taped or strapped to ensure they do not come loose during transit.

#### **INCOMING EMERGENCY PARKING BRAKE TEST**

The following inspection will be performed by a qualified Pierce technician to insure this apparatus is safe to drive and perform work on. Should any defects be found that are not already addressed in the proposed work, an itemized list of the defects, along with the costs to repair any additional items, will be provided to the fire department for review. *Repair of any defects will be "open", pending approval and additional costs. No additional work will be performed without prior approval from the fire department.* 

#### **INCOMING BATTERY LOAD TEST**

All truck starting system batteries and battery cables will be visually inspected for cracks, acid leaks, corrosion and overall condition. Along with the visual inspection a load test will be performed to verify the batteries cold cranking amps, voltage and shorted cells. Should any defects be found that are not already addressed in the proposed work, an itemized list of the defects, along with the costs to repair any additional items, will be provided to the fire department for review. *Repair of any defects will be "open", pending approval and additional costs. No additional work will be performed without prior approval from the fire department.* 

#### SCOPE of WORK

Cabinet and light upgrades.

#### <u>STORAGE BIN, PS, REAR</u>

Remove and replace passenger side rear stainless-steel compartment door

#### LIGHTING, STORAGE COMPARMENTS

There will be eight (8) compartment(s) with two (2) white 12-volt DC LED compartment light strips. The dual light strips will be centered vertically along each side of the door framing. There will be two (2) light strips per compartment.

Opening the compartment door will automatically turn the compartment lighting on.

#### **STORAGE BIN, BATTERY STATION**

One (1) side storage compartment will be equipment with 12volt duplex outlet for robot charging station.

Charging station will be on a floor mount slide out tray

#### **STORAGE BIN, SHOVEL, HAND TOOLS**

One storage bin will be equipped with tool mounting storage system.

Storage rack will be mounted on a floor mounted slide out tray.

Tray will have tapper sides 2" front and 10" rear

#### **STORAGE BIN, EXPLOSIVE**

Two (2) Top load Type 3-day box will be provided on the passenger side. Approximant size or the rear box will be 36"W x18 W x12 H, forward box will be as large as possible taking up the existing space on the tray.

The explosive box will be mounted on a floor mounted slide out tray.

#### **GENERATOR**

Current generator will be removed and deleted.

There will be a Onan CMQD 8 HDKAU/41934 diesel single phase generator installed on the apparatus. The generator will have a continuous duty rating of 7,300 watts.

Generator will need to be remounted in the same compartment.

Driver side compartment is too small to relocate the generator, Generator will need to install in existing generator compartment

#### EXHAUST, ENGINE

Current vertical engine exhaust will be moved and deleted.

The new exhaust system will be relocated to the driver side in-front of the rear tires.

#### KUSSMAUL AUTO EJECT FOR SHORELINE

One (1) will be provided to operate the dedicated 120-volt circuits on the truck without the use of the generator.

The shoreline receptacle (s) will be provided with a NEMA 5-20, 120-volt, 20 amp, straight blade Kussmaul auto eject plug with a yellow weatherproof cover. The cover is spring loaded to close, preventing water from entering when the shoreline is not connected.

A solenoid wired to the vehicle's starter is energized when the engine is started. This instantaneously drives the plug from the receptacle.

The shoreline will be connected to the battery charger.

A mating connector body will also be supplied with the loose equipment.

#### **BUMPER, REAR**

Remove and replace rear bumper assembly matching the original design.

Rear bumper assembly will be coated with Safe Stride to match side storage bins

#### **ELECTRIC STEP**

A Kwikee electric step will be installed below the tailboard.

The step will automatically retract when the vehicle is taken out of the park position. The step will automatically extend when the vehicle is put into the parked position.

This step will have a non-slip surface

There will be one (1) Amdor, Model AY-LB-12HW012, 190 lumens, 12.00" 12-volt DC LED strip lights provided at the step area of the body.

The light will be activated when parking brake is applied.

#### **STORAGE, ANTENNIA**

Antenna for robot will be stored in a lower compartment on a floor mounted slide out tray.

#### **SIDE SCENE LIGHTS**

There will be one (1) Whelen, Model 9SC0ENZR LED scene light with chrome flange installed on the passenger side of the apparatus, current location above side entrance door.

Light will be controlled by current switching

These lights may be load managed when the parking brake is set.

#### FRONT, SCENE LIGHT

There will be one (1) Whelen, Model 9SC0ENZR LED scene light with chrome flange installed on the front of the apparatus, on the wind deflector.

Light will be controlled by switching in the cab.

These lights may be load managed when the parking brake is set.

#### REAR, SCENE LIGHTS

There will be two (2) Whelen, Model 9SC0ENZR LED scene light with chrome flange installed on the rear of the apparatus, lights will be mounted below the rear warning and in.

Light will be controlled by switching in the cab.

These lights may be load managed when the parking brake is set.

#### **120-VOLT LIGHTING**

There will be two (2) Whelen, Model PCP3P, 120-volt DC LED combination spot/floodlight(s) installed on the apparatus.

The light housing will be White.

The lights will be installed on extendable poles, current location, two (2) rear light heads will be stored at the top of the roof, lighting will be used as side lighting if needed.

The inside pole length to be 57.00" long or as long as practical to fit in the location selected.

The lights will be controlled by the following:

One (1) switch inside the cab for the rear lights

These light(s) may be load managed when the parking brake is applied.

#### VIDEO SYSTEM, REAR CAMERA & 7.00" LCD DISPLAY

A Safety Vision video system with color rear view camera with built in microphone, activated with the reverse signal, and 7.00" LCD display monitor with swivel mount located TBD will be provided.

The following components will be supplied:

- One (1) SV-LCD70BA 7" Color LCD
- One (1) SV-620A Color camera
- All necessary cables

#### PRINTER, COMPUTER, WIRING

New wiring will be installed for the Computer and printer. The wiring will be properly identified with labeling.

#### **MICROWAVE, RECEPTACLE**

120-volt duplex receptacle will be installed for suppling power to the microwave

#### TRAY, SLIDING

Install sliding tray assembly for the computer in P2 compartment.

#### **LIGHTING, INTERIOR**

Interior body lighting will be replaced with LED lights

#### DIGITAL VIDEO RECORDER

There will be one (1) Everfocus, Model EMV40/500M, four (4) channel mobile digital video recorder (MDVR) with removable 500Gb hard drive located TBD.

Features of the MDVR will include:

- NTSC/PAL auto detect video format with interface cables for BNC & RCA
- Embedded 3-axis G-Sensor
- H.264 video compression
- BNC Main monitor out

Software configuration will be the responsibility of the end user.

#### **RADIO**

Remove and delete the MPD radio from rear of the command unit.

#### RADIO, TWO WAY

Two-way radio will be reconfigured to operate so power is constant from the front head to remote head in the rear, without the use of the Master switch that is currently installed.

#### **CABINETS, REAR**

The existing rear wall cabinets will be removed and replaced with the following: Two (2) storage cabinet, 38.50" wide x 60.00"" high x 11.50" deep, with two (2) Gortite roll up doors, satin finish.

The cabinet will be constructed of aluminum and painted to match the cab interior.

3" lip will be installed on the top of the compartment for long tool storage.

#### ADJUSTABLE SHELF

An adjustable shelf will be provided. The shelf will be constructed of 0.188" thick aluminum with 2.00" high sides.

The shelf will be deep and as wide as possible for the specified mounting location.

The shelf will be secured within the compartment by means of adjustable threaded fasteners. These fasteners will slide in an extruded aluminum track to provide height adjustment.

The shelf will have a load capacity of 500 lb.

A total of six (6) will be provided three (3) per compartment.

#### Cabinet Light

There will be two (2) compartments with Pierce LED compartment light strips. The strips will be centered vertically along each side of the door framing.

Opening the compartment door will automatically turn the compartment lighting on.

#### **UNIVERSAL COMPUTER MOUNT**

A universal computer mount for a laptop computer (computer not included) will be securely installed, Location TBD. The mount will allow 900 tilt fore / 260 aft, swivel 600 side to side, and slide up to 5.00" fore and aft.

The mount will allow laptop computers within the following dimensions to be attached to the cradle:

- Computer Depth: 9.00" to 12.38"
- Computer Width: 10.62" to 16.50"
- Computer Height: 0.00" to 1.50" with screen open

A 15-amp power point connected [12vdc power from], will be located in the cab console on the officer side near the computer mount.

The following Gamber Johnson components will be provided:

- One (1) DS-56 Horizontal Surface Mount Base
- One (1) 7160-0285 Quad Motion TS5 5" slide
- One (1) 7160-0454 Universal Adapter

#### **COATING, SAFE STRIDE**

Sade stride coating will be applied to the fuel tank, access steps, passenger, driver side trim panel down and rear lower stainless-steel sheet.

#### **120 VOLT RECEPTACLE**

There will be one (1) Hubbell HBL420I 4-PLEX 4-place receptacle box with four (4) 15/20amp 120-volt AC three (3) wire straight blade receptacles installed in P2 compartment. The NEMA configuration for the receptacles will be 5-20R.

The receptacle will be powered from the shoreline, and generator

There will be a label installed near the receptacles that state the following:

- Line Voltage
- Current Ratting (amps)
- Phase
- Frequency

#### ELECTRIC AWNING

An electrically opening and closing awning with 12 VDC electric motor will be supplied. The awning will be stored in a metal enclosure on the side of the body with end fairings for blending into the side of the body when not in use. The awning enclosure will be painted Black.

A switch will be provided for easy push button convenience inside an adjacent forward compartment. A sensor will be provided to retract the awning automatically in high wind conditions. A manual crank will be provided in the event of a power failure.

The awning will be as long as possible with a maximum length of 12'. The awning projection will be 9' 9.00" from the body.

When fully extended, the awning will be self-supported without the use of poles extending to the ground.

The awning will activate the Do Not Move Truck indicator circuit to alert the cab occupant(s) that the awning is not in the stowed position when the parking brake is released.

The awning will be Black.

A total of one (1) will be supplied.

The awning will be installed on the passenger side.

#### **GENERATOR TO SHORELINE TRANSFER SWITCH**

Remove and delete current invertor and install Transfer switch.

There will be an automatic transfer switch between the onboard generator and the shoreline inlet. The loads connected to the transfer switch will be power from the onboard generator when the generator is running.

#### BATTERY CHARGER

There will be a Kussmaul, Model 091-216-20/20, 40-amp battery charger with internal battery saver provided. Separate ammeters will be provided on the charger to indicate charge and saver output.

The battery saver circuit will be capable of supplying up to 20 amps for external loads such as hand lights or auxiliary radio batteries.

The battery charger will be wired to the AC shoreline inlet through an AC inlet on the front of the battery charger.

#### HEATING AND AIR CONDITIONING

There will be two (2) white, Coleman®-Mach® 8, Roughneck<sup>™</sup>, 120-volt, low-profile airconditioning unit installed on the crew cab roof. The air conditioner will have cooling capacity of 15,000 BTU and heating capacity of 6000 BTU and a condensate pump and hose to prevent accumulation of condensate on the roof.

Thermostat will control the air conditioning unit.

The thermostat will be wired battery direct to operate when the battery switch is off.

This unit will be powered from the shoreline and generator.

#### **OFFICE CHAIR**

An office style mid back swivel/tilt chair with pneumatic seat height adjustment will be provided in the crew cab.

The chair will have tilt tension and tilt lock controls and swivel 360 degrees. The chair will have a black frame with adjustable arms. The seat dimensions will be 21.00" wide x 18.00" deep. The back will be 17.50" wide x 18.00" high. The overall height will be 31.75"-38.25" high.

There will be a small shock cord secured to the adjacent work surface to ensure the chair stays in place while the vehicle is in motion

A total of three (3) black colored chair(s) will be provided.

#### **RACK POWER SUPPLY**

New power supply rack will be provided in the passenger forward upper compartment, current location.

#### WIRING RACEWAYS

Remove and delete existing wiring raceway on passenger / driver side command centers.

The new wiring raceway will have twelve (12) 120v outlet and six (6) USB ports on each side

#### **PRINTER**

Remove and replace the printer wiring cables.

#### **OUTLET, MIRCOWAVE**

Install a new duplex 120-volt outlet to supply power to the current microwave.

#### **CHARGING STATION**

Charging station will be installed in the driver side middle compartment.

The station will provide power to twelve (12) chargers.

Robot batteries are 24 volt – 8-amp batteries

#### TRAY, BATTERY

Battery tray will be provided for the storage of the Robot Batteries. Tray will be 13.50" L x 8.50" W with 2.00" sides

Tray will be made from .125" aluminum.

Velcro straps with footman loops will be installed to secure the batteries.

#### WIRING REPLACEMENT, CLEANUP

Wiring located above the command centers in the upper compartments will inspected for splicing and wire identification.

All wiring that is spliced will be replaced

Wiring will be labeled for identification and trouble shooting.

All wiring will be enclosed in a raceway.

#### CABLE, ROBOT

Cabling for the robot will be stored in an aluminum box and paint 600T black.

#### WIRING RADIO

Radio wiring will be removed and replaced.

#### **CONSOLE, CENTER**

There will be one console located between the driver and officer seats. Console will be sized to fit the following components. Two (2) 3.75" diameter hole will be provided for a cup holder on each side of the console, six (6) 15-amp USB ports, three (3) on each side, two (2) recessed radio slots, one (1) six place power strip at the front of the console. (See lay out print) The console(s) will be painted to match the cab interior.

#### SWITCHING, EMERGENCY

The following switching will be installed

- E-Master
- Individual warning light switches for all zones
- Scene Lights
- New Headlight switch that allows them to be turned on and off for dark operation incidents as needed.

#### HOLDER, DOOR

Remove and replace the positive door holder on the main entrance door to match rear door holder.

#### **COMPARTMENT, ROOF**

Bolt on roof compartment will be removed and deleted.

The holes will be welded shut, metal finished, primed, and painted. (Brushed)

Treadplate sheet will be installed over existing holes mounting at the rear of the body.

Inspect roof chalking for repairs. Re-chalk as needed and water test.

#### **COMPARTMENT, GAS**

Driver side front compartment will be chalked and sealed for storing fumed items.

Louvers will be installed for ventilation.

#### **LIGHTING, INTERIOR**

Strip lighting will be added to the overhead cabinets to provide lighting on the work surfaces at the workstations.

#### **BLINDS, INTERIOR**

Remove and delete all interior window blinds.

Install limo window tinting on the three (3) body windows

#### **CABINET, C-TECH**

Install three (3) new slide out locking drawers in the existing cabinet.

Inspect and replace broken C-Tech latches, approximately four (4)

Install missing modesty panel located above the driver rear cabinet.

#### **TELEVISION**

Remove and delete the television that is mounted in command work area.

Install a new Flat screen television approximant area available 25" H x 32 W.

New television will be connected to the driver side television.

Television will be mounted on a low-profile mount to keep it close to the wall.

#### **PLEXIGLASS**

Install new plexiglass surface on the driver side interior body compartment top for explosives cutting surface area.

#### **SHIMS, BODY**

Remove and replace the existing two (2) wood body shims that are between the body and frame rail with two (2) poly block shims.

Total Project Cost: \$ 149,020.00

## END

## **Options Requested on Following Page**

### OPTION PRICING IS NOT INCLUDED IN REFRUBISHMENT QUOTE

#### **REAR SPRING SUSPENSION REPLACEMENT**

The rear suspension will be replaced to include the following:

- Install rear spring assemblies
- Install new pins and bushings in rear hangers.
- Install new U-bolts, washers and lock nuts

#### Cost: \$ 2,673.00

#### **DOOR, COMMAND**

Command door entrance will have an electronic lock with an keypad access pad installed on exterior of the body.

Cost: \$ 1,490.00

#### **SEAT, AIR RIDE**

Remove the existing driver seat and install an air ride seat in the driver's position.

Cost: \$ 1,372.00

#### **LIQUID SPRING SUSPENSION**

The Liquid spring suspension is not available for this unit.

END

