

Form 1. Individual Project Proposal Descriptions and Justification

Prepared by: Chief John R. Doucette Date Prepared: 12/11/2012

Project Title: New Engine (R-11) Equipment Program Area: Ledyard Fire Company

Project Description:

This CIP request will provide equipment necessary to outfit the new Compressed Air Foam System (CAFS) engine arriving in July/August 2013. Currently owned equipment will be utilized as much as possible to outfit this new apparatus, however due to the new technology certain new equipment is needed. CAFS rated fire hose and nozzles and replacement of large diameter supply hose lost during annual NFPA hose testing is required.

FCC narrow banding requirements prevents moving radios from old engine to new engine.

CAFS Fire Hose

Traditional double-jacketed fire hose currently in use by the department is sufficient for normal water based firefighting operations. The current hose however, is nearing the age when most of our stock will be in need of replacement. CAFS fire hose is specifically designed to accommodate compressed air and foam concentrate that would deteriorate traditional fire hose more rapidly. In addition, the benefit of CAFS as it relates to light-weight fire hose and less man-power intensive firefighting operations is not realized without CAFS rated fire hose. The purchase of this fire hose will greatly reduce the dependency on our existing fire hose resulting in extended life and reduce necessity to replace existing hose. This will also facilitate the ability to reduce the stock of traditional fire hose as it is replaced with the universal CAFS hose over time.

Fire hose is tested annually in accordance with National Fire Protection Association (NFPA) requirements. Stringent testing methods are required for this life safety equipment and failure rates are directly proportional to age and use of fire hose.

The decision was made to move towards two CAFS fire apparatus. Currently, the Ledyard Fire Company operates a 2012 Ford F-550 CAFS Quick Attack pumper. The Ledyard Fire Company will take delivery of a 2013 CAFS Engine (pumper) in July or August 2013. Due to the smaller size of the 2012 Ford F-550, the hose for this vehicle was purchased out of the FY 2013 Fire Department budget. The hose on both apparatus is identical and interchangeable.

The requested funding will outfit this new CAFS Engine with CAFS rated fire hose and supply the department with one complete set of ready-status replacement hose. Fire hose

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on the truck must be rotated with the ready-stock after each incident in which the hose was used. This means that an equal amount of hose must be stored at the station as is on the truck to facilitate the rotation. This also provides the benefit of extended hose life and reduced replacement costs.

Firefighting Supply Hose

Due to the aforementioned NFPA annual hose testing, the Ledyard Fire Company lost 8 one-hundred foot lengths of 5" rubber supply hose in 2012. Each of our two engines carry 1100 and 1500 feet of 5" supply hose respectively. The purpose of this hose is to supply water from a source (tanker or hydrant) to the apparatus directly involved in firefighting operations. NFPA requires that this hose is carries on firefighting engines and reducing the amount of supply hose is not possible.

The loss of hose due to testing is not related to maintenance issues, instead it is directly related the age and use of such hose. In most cases repairs are not possible to place this hose back in service.

Requested funding will allow the Ledyard Fire Company to purchase 10 one-hundred foot lengths to replace failed hose. 1000 feet of new 5" supply hose will be placed on the new CAFS Engine to combine with existing hose for a total of 1500 feet of supply hose.

Master Stream Nozzle

Traditionally fire apparatus have a permanent master stream device (deck gun) piped through the top of apparatus through rigid piping from the pump. When such device is required for firefighting operations a member would climb to the top of the apparatus and control this device. Apparatus positioning at the scene and distance to the fire directly affect the success of this device for firefighting.

Plumbing, nozzle and equipment for this traditional truck mounted master stream device had a cost of approximately \$10,000.

To facilitate portability of a master stream device and reduce costs, the Ledyard Fire Company decided to eliminate the permanently mounted unit in lieu of a portable master stream nozzle that could be positioned as needed at emergency incidents. This greatly increases the effectiveness of the master stream device, reduces the manufacturing cost by more than a half during apparatus construction and reduces maintenance costs versus permanent devices.

Firefighting Nozzles

Nozzles capable of flowing CAFS are required on each of the three firefighting hand lines on our new CAFS Engine. Currently the fire department relies on fog stream

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nozzles. These nozzles would remain in service as spare nozzles on the truck, however smooth bore nozzles are required for CAFS application.

Radios

Since the apparatus being replaced was built in 1988 it's radio system to communicate with the dispatch center, while reliable, is not capable of being retrofitted or being brought into compliance with new 2013 FCC and narrow banding requirements.

The requested funding will equip the new CAFS engine with a radio to match the radio in service on our 2012 Ford F-550 Quick Attack pumper.

This new radio will serve the expected 20 year life of the apparatus and beyond.

Evaluation Category: RPH

Planning Context:

The aforementioned funding requirements are one-time purchases and do not require future additional funding through follow-on requests through CIP or annual budget.

Schedule:

Due to the necessity to place the new fire apparatus into service as quickly as possible upon its arrival in July/August 2013, 100% of this project should be funded in one fiscal year. New technology (CAFS) requires certain equipment not already owned by the department and therefore must be purchased in FY 2014.

Coordination:

This project is not linked to other budget or CIP requests or covered by other funding sources.

Previous Town Meeting Action:

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No previous action.

Project Priority:

1 / Highest priority within department/program area

Estimated Cost: \$28,500

CAFS Capable Firefighting Hose: \$6,804
Firefighting Supply Hose: \$8,350
Master Stream Nozzle: \$4,650
Firefighting Nozzles: \$2,145
UHF/VHF Communications (Radio) with vehicular repeater: \$6,416

Basis of Cost Estimate: Check one of the following. If you want to provide more detail on the estimate, do so with a narrative after indicating the type of estimate.

- Cost of comparable facility or equipment
 - Rule of thumb indicator, unit costs
 - From the cost estimate from engineer, architect, or vendor
 - From bids received
 - Preliminary estimate, (e.g. no other basis for estimate, guesstimate)
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Alternative Financing:

No alternative funding available for this project. Our department continuously and aggressively applies for the US Department of Homeland Security / FEMA Assistance to Firefighters Grant. Currently our department's AFG request for 2012 remains active for equipment not covered by this financial request.

Purchasing this equipment out of the department's annual budget will significantly interfere with our ability to maintain operations, replace and purchase necessary life safety equipment and will result in a significant budget increase request for FY15 to catch up on items missed in FY14.

Prices above reflect state bid pricing from local vendors capable of providing equipment and service quickly and efficiently.
