

COUNCIL ACTION FORM

SUBJECT: REPLACEMENT OF FIRE APPARATUS ENGINE 2

BACKGROUND:

The Fire Department utilizes two front-line apparatus (Engine 1 and Engine 2) for structural firefighting. One aerial apparatus (Truck 3) is also used for structural firefighting and provides an elevated water stream with rescue capabilities beyond that of a fire engine. A single reserve engine is retained for use in the event that one of the front line apparatus is taken out of service.

Under long-standing City practice, fire apparatus are used as frontline emergency response vehicles for 15 years. After that time, some are chosen to be refurbished and utilized as reserve units. The 15-year replacement cycle is longer than some other fire departments, but has proven to be satisfactory in Ames due to the excellent maintenance program by Fleet Services and Fire Department personnel.

The City's current Capital Improvements Plan (CIP) shows Engine 2 being replaced on its fifteenth year of use in fiscal year 2010/11. The new engine is estimated to cost approximately \$550,000. In preparation for the upcoming budget, staff contacted fire two apparatus vendors to obtain an updated estimate for replacement of this apparatus.

Staff also inquired as to how the manufacturers were planning to address the federal government's new 2010 diesel emissions standards, which were adopted to reduce emissions from diesel engines. Both manufacturers expressed concerns about fire apparatus and the new diesel emission standards. One called the 2010 fire apparatus "Beta tests for how this will work for fire trucks."

The 2010 standards will cause a substantial increase in costs (estimated at \$30,000 per apparatus), which is to be expected with the greater emissions control. However, there is also significant concern regarding the effect of the new engine modifications on the reliability of emergency response vehicles. The current approaches to these new emission standards both were designed for over-the-road vehicles with hot engines. However, fire apparatus are short run vehicles that predominately run with cold engines.

Staff has contacted the one department in Iowa that already obtained a new fire engine meeting the 2010 emission standard. The department has had problems related to the emission standard that caused the apparatus to fail and necessitated its being towed to a repair shop.

The new 2010 standards also require maintenance to urea injection systems, which are a part of the emissions control system. The City is not prepared to supply and maintain these

systems. The Fleet Services Director approached the Iowa DOT on their plans for addressing maintenance of urea injection systems, and found that the IDOT also has no plans to supply or maintain these systems. Instead, the DOT plans to use an alternative emissions control system not available for the larger diesel engines used in fire apparatus.

In short, the planned timing to replace Engine 2 falls during a time when brand new emissions control technology is being brought to market. Since fire apparatus are retained for so many years, it would seem prudent to avoid purchasing a new technology that could still be problematic.

Several possible options have been identified to address this situation. One is to accelerate the bidding process prior to the end of calendar year 2009 to explore whether an engine can be ordered with the pre-2010 emissions system. Another is to proceed with the standard purchase timing as shown in the CIP. A third is to postpone purchase of Engine 2 until the new emissions control technology is proven to be more reliable for cold start diesel engines. Yet another option is to purchase a used apparatus or refurbish the current engine for continued front line use.

The first option would only be possible if the City's purchasing policies were waived and if staff immediately solicited bids on a new apparatus. This waiver of purchasing policies would allow an expedited evaluation and bidding process. Should Council authorize this approach, it should be specifically noted that this effort may not result in an order being placed by the end of this year. That decision would depend on an analysis of bids received. Any award would also be subject to funding authorization during the Council's final 2010/11 budget approval in March.

ALTERNATIVES:

1. Waive the City's purchasing policy and authorize staff to seek bids for replacement of Engine 2 with a 2009 apparatus that does not meet the 2010 diesel emissions standards.
2. Purchase Engine 2 during 2010/11 as scheduled, including a diesel engine that meets the federal government's new emissions standards.
3. Postpone purchase of Engine 2 until after 2010/11, when reliable emissions control technology is available for cold start diesel engines.
4. Direct staff to explore purchase of a used apparatus or refurbishment of the current engine for continued front line use.
5. Wait until the 2010/11 budget and CIP are finalized to decide if this purchase should be made as scheduled during 2010/11 or delayed a number of years.

MANAGER'S RECOMMENDED ACTION:

This situation appears to require choices between several desirable results. On the one hand, meeting the new 2010 diesel emissions standards would be a definite step towards the Council's carbon reduction goal. On the other hand, the emissions reduction technology that will be available in 2010/11 has not yet been proven for cold engines such as those used by our fire apparatus. If performance problems occur with that technology, it could compromise emergency response in the community.

Seeking bids at this time on 2009 engines would not authorize the advanced purchase of a fire apparatus. However, it would allow for rapid negotiations that could result in a more dependable apparatus at significant savings. Any purchase agreement would still need to be approved by Council, and final approval would be subject to funding as a part of the 2010/11 budget. The other option was considered, which is to delay purchase of the engine until the new emission technology is perfected. However, it is likely that that approach would result in an even larger dollar cost to the City by delaying the purchase past the scheduled 2010/11 fiscal year.

Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, waiving the City's purchasing policy and authorizing staff to immediately seek bids for replacement of Engine 2.