

Report on meeting with Fire Chief Neagle (26 March 2009)

Building efficiency measures

The Fire Department has made several efficiency improvements using federal emergency services funding. A PlymoVent system was installed to capture exhaust fumes so that fire trucks can run inside the garage without opening the doors. Also, Chief Neagle is gradually replacing inefficient lighting and leaky windows.

The Fire Department's natural gas-fueled water heater was installed in November 2004, so it is too young to be replaced soon. The water heater is fairly efficient, rated at 254 therms/year, and does not actually consume even that much gas. The gas-fired boiler is 21 years old but working well. One of the warm-air garage heaters is only a year old and has electronic ignition. The other one is only 2 years old and will be converted to electronic ignition with a \$500 kit.

One of the challenges of retrofitting the Fire Station's HVAC equipment is that part of the building is 50 years old, another part 30 years, and another 20 years. One room is very hot despite air-conditioning. The building uses 2 window air conditioners, and Chief Neagle's capital improvement plan calls for installing more economical AC units within 5 years.

New energy equipment purchases

Chief Neagle is involved in recommending a new, diesel-fueled 50-kVa standby generator to be dedicated at least 90% to the Police Station. The estimated cost of \$80,000 includes installation, wiring, and switchgear (about half of the total cost), as well as a 2-day fuel supply (rather than the standard 24 hours) for only a small incremental cost. The generator will be big enough to operate the entire building.

Because the generator will be located so close to the Police Station's distribution room, installation/wiring costs might be lower than expected. If funding is approved at Town Meeting, competitive bids will be solicited, but Chief Neagle hopes to select a Caterpillar engine.

If LELD offers an electric rate break in exchange for occasionally using the generator for peak power, we would need to investigate the effect of additional operating hours on the engine's rated life. Without any peak use, the generator would be turned on only once a week to keep it ready for emergencies.

Fire Department vehicles

Chief Neagle's car is the only light-duty vehicle, a 2004 Ford Expedition (four-wheel-drive 5.4-liter engine), and it is not scheduled for replacement. The Fire Department runs a couple of engines built on heavy-duty pickup truck chassis, which might be called medium-duty trucks based on gvw (gross vehicle weight). One of these is a forestry brush truck that is hardly ever used, and the other belongs to the state. The Fire Department is getting two new heavy-duty vehicles that will be exempt from state fuel-economy guidelines.

Fuel economy, mpg			
Model/Year	Actual (est.)	EPA rating*	
		Old	New
		city/highway; combined	
Ford Expedition (FWD/5.4-liter) – 2004	17	12/16; 13	13/17; 15

*Starting in model year 2008, EPA ratings reflect the effects of faster speeds and acceleration, air-conditioner use, and colder outside temperatures.