Project

The Palm Beach Fire Rescue Department (PBFR) is requesting funding from the Assistance to Firefighters Grant Program for modification to Fire Station 2 and Fire Station 3 regarding the purchase and installation of a Vehicle Exhaust Extraction System for each of these fire stations. This activity focuses on protecting the health and safety of firefighters of PBFR by removing 100% of the diesel exhaust emissions from the fire stations.

Through a comprehensive risk assessment, diesel exhaust emissions have been identified by PBFR as a risk posed to the health and safety of its firefighting personnel, administrative personnel, and visitors to the fire stations. The United States Fire Administration (USFA) has identified firefighters as one of its high-risk populations. Presently these two fire stations have old, outdated exhaust fans that do not have the capacity necessary to remove the diesel exhaust emitted by the apparatus.

The lack of having a vehicle exhaust extraction system allows:

- Harmful carbon monoxide and diesel exhaust to exist in the apparatus bays.
- Firefighters personal protective equipment (PPE) that is stored in the apparatus area to be coated with diesel residue.
- Cross contamination of EMS equipment located in the compartments of the apparatus (PBFR provides Advanced Life Support) with diesel residue.
- Apparatus exhaust to enter into the living quarters of the fire stations. This situation exposes firefighters to continued long-term exposure to carbon monoxide and diesel exhaust (a known cancer causing agent – as designated by NIOSH and OSHA).

How you plan to use the grant funds for each major budget activity as listed on the budget form? PBFR plans to use the $66,863 from the grant to purchase and install a vehicle exhaust extraction system. Within the grant budget, the funding is listed as contractual services. This installation is considered a "turn-key" operation. PBFR has received two bids for the project, which consists of purchase and installation, including all permits and equipment, from start to finish.

Why this program would be beneficial to your community/department? Firefighters face an ever-growing number of hazards that range from fighting structure fires to exposure to blood products and communicable diseases, to responding to terrorism events

and weapons of mass destruction. As technology advances, firefighting becomes more of a science than an art. This fire science teaches us that we must approach firefighting in a smarter and safer way. Paramount in this approach is to reduce those hazards which the fire fighter **can** control. Firefighters wear protective clothing and self-contained breathing apparatus to limit their exposure to various hazards on the fire ground. Yet, firefighters can equally be exposed to hazards *off the fire ground*. **Firefighter exposure to diesel fuel emissions from fire apparatus within the fire station** represents a significant hazard within the fire service. The following organizations support our request and the justification for the vehicle exhaust extraction system for the health and safety of PBFR's firefighters, administrative personnel and visitors to its fire stations:

- **National Institute of Occupational Safety and Health (NIOSH)** - In accordance with NIOSH pocket guide for chemical hazards and its documentation for immediately dangerous to life or health concentrations, NIOSH recommends (Appendix A) "vehicle exhaust fumes are a potential health carcinogen and recommends that occupational exposure to this carcinogen be lowered to the lowest feasible concentration."

- **Occupational Safety and Health Administration (OSHA) – Hazard Information Bulletin November 30, 1988 - …** epidemiological evidence suggests an association between occupational exposure to diesel engine emissions and lung cancer. The consistency of these toxicological and epidemiological findings suggest that a potential occupational carcinogenic hazard exists in human exposure to diesel exhaust.

- **National Fire Protection Association (NFPA) 1500-2002 edition – A.9.1.6** which states "for the previously stated reasons and numerous support documentation, this technical committee recognizes and advocates the need for the elimination and the containment of all vehicle exhaust emissions to a level of no less than 100 percent effective capture.

Fire departments must take active measures to reduce this exposure. PBFR already takes an active role in the protection of its firefighters while in quarters as all three fire stations are protected by a monitored smoke and fire alarm system, carbon monoxide detectors, and sprinkler systems. PBFR seeks to take an additional active measure in protecting their firefighters from diesel emissions by seeking funding through the 2003 Assistance to Firefighters Grant Program to purchase and install a vehicle exhaust extraction system for two of its three fire stations.

As is stated in FEMA publication, ***Safety and Health Considerations for the Design of Fire and Emergency Medical Services Stations,*** "exhaust source capture is considered the most reliable means to reduce or eliminate exposure of fire station occupants to diesel exhaust emissions".

The vehicle exhaust extraction systems would provide 100% direct source removal of vehicle exhaust for all vehicles assigned to Fire Stations 2 and 3 because the vehicle exhaust extraction system attaches directly to the vehicle's exhaust pipe to capture and remove the diesel exhaust from point of start up until exit of the station. Additionally, when the vehicle returns to the station, the vehicle exhaust extraction system is attached to the vehicle's exhaust pipe as it begins to back into the station. This program would be extremely beneficial to PBFR and the community because the stations that PBFR is seeking to modify (Fire Station 2 and 3) by purchasing and installing vehicle exhaust extraction systems are:

- Staffed 24 hours a day, seven (7) days a week.
- Assigned seven (7) fire apparatus between the two stations.

Additionally:

- Fire Station 2 has four (4) to five (5) firefighting personnel assigned each shift, 24 hours each day.
- Fire Station 2 also houses the administrative staff (8 personnel work Monday through Friday, 8:30 a.m. to 5:00 p.m.).
- Fire Station 3 has seven (7) to eight (8) personnel assigned each shift, 24 hours each day.
- Fire Station 3 contains a meeting room with a capacity of 122. This room is used daily for many different functions including CPR training, Police Department training and Citizens Groups/Public meetings.
- All fire stations conduct station tours of school children at least once a month.

IAFF Local 2928, the union that represents the bargaining unit members of PBFR, the Town of Palm Beach Occupational Health Clinic and the Risk Manager for the Town of Palm Beach all wholeheartedly support this project due to the risk and liability reduction aspects of the program.

By being awarded with grant funds for this project for the purchase and installation of a vehicle exhaust extraction system, the atmosphere in the apparatus bay, inside the living quarters of the stations, and the meeting room will be kept 100% free of

carbon monoxide and diesel exhaust. Though PBFR has three fire stations, PBFR is are not seeking funding for its third station (Fire Station 1) as it is scheduled for replacement in 2004, and as a new construction project would not meet the intent of this activity within the Fire Operations and Firefighter Safety program of the Assistance to Firefighters Grant.

Please explain why this project cannot be funded solely through local funding.

Palm Beach Fire-Rescue receives funding through ad valorem property taxes. Tax dollars provide the operating funds, and PBFR is in direct competition with other city departments for a fair share of the taxpayer's dollars. Besides ad valorem taxes, the Town of Palm Beach is highly dependent on revenue generated through building permits and tourism. Last fiscal year, with the terrorist attacks of 2001 still a recent memory and the resultant economic downturn, PBFR was advised by Town Management to reduce its FY 2003 budget by 4%, and to prepare for further reductions as PBFR begins the budget process for FY 2004. PBFR is now preparing for FY 2004, and has been advised to keep the budget to what the FY 2003 level was; no budget increases and no new taxes or increase in the millage rate.

Additionally, the following items have negatively affected PBFR's and the Town of Palm Beach's budget in terms of having sufficient funding for this project:

- Pending construction of a new Fire Station #1 and EOC for $3.4 million
- Implementation of a "shift commander" program to improve safety of personnel and comply with provisions of NFPA 1710 for $255,000
- Increase of $300,000 in employee health insurance costs
- Increase of $103,628 in employee pension costs
- Anticipated $300,000 decrease in revenues from building permits
- Recent completion of a Town-wide beach re-nourishment project for $4.4 million.

Because of not being able to fund this project through budgetary means, PBFR is attempting to be proactive and look to fund this worthwhile project through the 2003 Assistance to Firefighters Grant Program.

Please provide any additional relevant information that you would like us to consider when evaluating your application.

PBFR is committed to the safety and well being of its firefighters. PBFR has made great strides over the last three years improving its firefighter's safety through the following:

- 100% of personnel are outfitted in NFPA 1971 compliant turnout ensembles **purchased with a Fire Act Grant from 2001**
- All three front-line engine companies have Thermal Imaging Cameras (**purchased with Fire Act Grant from 2002**) for use when crews are assigned as Rapid Intervention Crews
- All SCBA (36 sets) were replaced in 2002 with NFPA 1981 compliant SCBA to ensure the highest level of technology, safety (integrated PASS devices) and respiratory protection
- Replacement of all three front-line engine companies and two rescue units in 2001
- Additionally, all personnel are assigned a radio with an integrated personal alert device that can indicate if they are trapped or in distress,
- All personnel are outfitted in station-wear uniforms that meet NFPA 1975.

PBFR is just as committed to firefighter safety as it is committed to the safety of its citizens. PBFR believes that its human resources are its most valuable resources and firefighter safety should be the highest priority. To this end, PBFR seeks to enhance past FEMA grant awards mentioned above that also focused on firefighter safety, by funding this project with this year's Grant Program. Funding this activity under the Fire Operations and Firefighter Safety Program would greatly assist in PBFR being to better protect its firefighters; a high risk group according to the United States Fire Administration.

Furthermore, awarding $66,863 in grant funding for the purchase and installation of vehicle exhaust extraction systems for Fire Stations 2 and 3 of PBFR would be an excellent investment for the 2003 Assistance to Firefighters Grant Program. With its firefighters protected, PBFR can better protect the other two high-risk populations as stated by the USFA, children under fourteen and seniors over sixty-five (which currently comprises 56% of the population of the Town of Palm Beach according to 2000 Census statistics).