

**U.S. Department of Homeland Security, Office of Domestic Preparedness (ODP)
2005 Assistance to Firefighters Grant Program**

The Grant Program has classified Vehicle Exhaust Removal Systems as Modifications to Fire houses under Fire Operations and Fire Fighter Safety Program in the 2005 Grant program.

Applications will be accepted from March 7, 2005 commencing at 8am (EST) through 5pm (EST), April 8, 2004. The grant is open to fire departments of any state and a limited number of EMS facilities even if they are not under the auspices of the fire department.

Applications and tutorials can be obtained online by following the path at www.firegrantsupport.com. Click on "E-Grant Application" on the left side of the page.

This outline can be used for all grant applications, but is specifically designed for "vehicle exhaust extraction systems".

The purpose of this grant program is to protect the health and safety of firefighters and/or EMS personnel.

Any vehicle exhaust extraction system obtained should be extensive enough to extract all toxic vapors and particulates emitted from internal combustion engines and meet all applicable Federal, State and local standards. AirMATION® meets all of the requirements of the grant program. The system is NFPA, OSHA, EPA and NIOSH compliant. AirMATION meets these standards as shown by independent tests supervised by Municipal Industrial Hygienists. The AirMATION removes all carcinogens, particulates and contaminants in fire/EMS stations in addition to diesel soot, diesel fumes and diesel gases. In fact, we are the only company to offer a CO and NO2 detection/activation device as an additional safety measure.

There is no need to retrofit apparatus or modify fire stations. Regional departments or fire apparatus can make use of the facility for emergency or backup apparatus. The AirMATION is compatible with any vehicle, no vehicular modifications needed. This is important to emphasize especially for Mutual Aid. You can apply on a regional level with other departments or as a Fire District, but in this case there can only be one application. Likewise, if you are one of several companies in the Department or District you can put in your separate request for the AirMATION system, even if not all the other companies are applying for a vehicle exhaust capture system or if they are basing their application on a different brand.

Emphasize the particular needs of your department. For example, clarify if there is a lack of financial resources to purchase a vehicle exhaust capture system. Mention if your station has living quarters, is used on a 24/7 basis, for special training, events or by the public. There is no need however to go into depth regarding your department's history.

It has been suggested that a good way to gauge if your narrative is credible, is to have someone who has little or no knowledge of firefighting or EMS operations read the narrative. If he or she comes away feeling that a good case was made then the narrative was probably well written.

Necessary Information

1. All applicants must have a Dun #. This can be obtained at www.dnb.com/us, or call 1-800-333-0505 or 1-866-705-5711

2. Describe Condition or Problem

3. Purpose of Project
4. What conditions will improve as a result of this Project
5. Future Support of Project i.e. Maintenance costs
6. Requests should be frugal but sufficient
7. Priority will be given to requests for the least amount of funds but for most benefit i.e. enhanced health and safety are benefits
8. Demonstrate significant financial need
9. Show justification
10. Prior fund raising strategies
11. Brief picture of local economy
12. Mention the number of years you have been attempting to get a system, but unsuccessful because of lack of funds
13. Mention if station is staffed 24/7. If volunteer, mention that members stop by each day for pump check.
14. Facility used for community affairs, i.e. voting, civic meetings, fundraisers, fire education, class trips, etc.

Why Grant Applications Fail

1. Shopping for lowest costs
2. Did not follow directions
3. Requesting too much
4. Did not itemize costs
5. Did not make a cost-benefit case
6. Failed to provide a problem statement
7. Did not show financial need
8. Did not check work
9. Requested low priority items
10. Did not establish collaboration or partnership with other departments

11. Incomplete / Inaccurate information

12. Spelling and grammatical errors

Required Matching Funds

1. Serving a population of over 50,000 requires matching funds of 20%

2. Serving jurisdictions with between 20,000 to 50,000 requires 10%

3. Less than 20,000 population requires 5%

The match is not required at the time of application or award, but by end of the period of performance. Money must be new.

Prepare your narrative in a word processing program, review, add, delete, correct and when completed “copy and paste” to the application. Do not type in capital letters and limit it to five pages. In addition, do not try to modify the font extensively as it will come up in 11 or 12 space fonts on the form.

For more information and help please call: Air Technology Solutions, Inc. at 800-743-3323

AirMATION® is a registered trademark of Biological Controls

Attached: 2 Successful Grant Narratives (to be used only as a resource, not to be copied verbatim. It is better to write the narrative in your own words.)

AIR TECHNOLOGY SOLUTIONS, INC.

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"Breathe Healthy Air"

Narrative: Operations and Firefighter Safety Program

THE PROJECT THAT YOU ARE REQUESTING TO BE FUNDED:

The “Lindenwold Fire Department Indoor Air Improvement and Thermal Imaging Program”

Project Description: This would allow our Department to obtain an AFG Grant to modify our three fire stations under the category Section “e” titled “Modifications to Fire Stations and Facilities. Under this heading, it is our intent to install AirMation Vehicle Exhaust Extraction System into each of our fire stations. It is required for the purpose of protecting our station personnel and the general public, who visit our stations on a daily basis, from the cancer causing effects of vehicle exhaust emissions. These emissions are generated by our apparatus during startup, return to quarters and routine pump testing in our facilities. An AFG Grant will allow us to eliminate this hazardous exposure and comply with NFPA 1500-2002 Edition, section A.9.1.6.

Under the Operations and Firefighters Safety Program category Section “b” titled “Equipment Acquisition”, it is our intent to purchase a thermal imaging camera (TIC) which will allow for a more rapid detection of fire, allow for a quicker fire knock down, assist in locating entrapped victims, and it would be used by our Rapid Intervention Team (RIT) to reduce the potential of firefighter injury.

Financial Need: For over five years, our fire department has been actively pursuing the purchase of a vehicle exhaust extraction system. The fire department’s \$93,000 yearly budget barely covers costs associated with insurance, fuel, utilities, hydrant rental and maintenance. The \$ 59,600 cost of the Airmation Vehicle Exhaust Systems is about two-thirds of the entire yearly budget and something that can not be encumbered by the volunteer firefighters or the Borough taxpayers at this time or at a time in the immediate future. The fire department has actively sought funding through the Fire Commissioner’s Office; however, the Commissioners have already provided the department with other new purchases and are also in financial constraints that prohibit them from contributing more than they already have. The department has also approached the Borough of Lindenwold for assistance to purchase these items and due to decrease in tax revenues the Township says the money is not there to fund these items.

Cost-Benefit of Request: Implementation of this project will directly benefit the citizens of our community and our department. The vehicle exhaust extraction system would be used on a daily basis which would have a financial cost savings to our department not only from the health and safety aspect of our personnel but also in reducing maintenance costs relating to painting, furniture and fixture replacement, and most of all infiltration of carbon soot particles would reduce exposure to workmen’s compensations and medical insurance claims. The thermal imaging camera (TIC) will benefit our RIT team, which will provide enhanced overall safety to our members, and the members of the 37 mutual aid departments we provide service. Also reduced, is the amount of property damage to our citizens.

HOW YOU PLAN TO USE THE GRANT FUNDS FOR EACH MAJOR BUDGET ACTIVITY AS LISTED ON THE BUDGET FORM:

Funds requested from the Modifications to Fire Stations and Facilities Category will be used to purchase and install AirMation Industrial Air Cleaners, which will be located in all three fire stations that compose Lindenwold Fire Department. These air cleaners will eliminate the hazardous exposure to cancer causing effects of vehicle exhaust emissions and bring us in compliance with NFPA 1500-2002 Edition, section A.9.1.6.

The Airmation Systems we intend to purchase have been independently tested and are capable of capturing 100% of the vehicle exhausts emissions at a cost of \$59,600. The exhaust system will utilize an auto start electrical control box, which is UL tested and certified. This controller will automatically energize an exhaust blower upon the opening the engine room bay doors and in turn will extract all exhaust emissions out of the building. The Airmation Air Cleaners have EPA particulate emissions filters which reduce up to 99% of the diesel exhaust being emitted to the atmosphere, and fulfill environmental requirements. This would achieve air quality standards governed by the EPA Clean Air Act and the USGBC to protect the surrounding community from the airborne contamination the fire apparatus generates. Fulfillment of this grant request, will allow us to further comply with NIOSH, OSHA, and new building code ordinances governed by Federal, State and Municipality codes for hazardous material exhaust control systems. The system that we have selected for purchase is recognized as the leader in the vehicle exhaust extraction industry and meets UL (Underwriter’s Laboratories), ISO-9001 (International Standards Org.), and AMCA (Air Moving and Control Assoc.) third party performance testing and quality assurances. This system was designed to specifically meet the needs of emergency response vehicles and is fully automatic so as not to interfere with firefighter response time. This system

would also serve our neighboring departments which are often called up to our stations for automatic/mutual aid. Our grant request for the Airmation Vehicle Exhaust Extraction system is in complete compliance of the **2004 Program Guidance for the Assistance to Firefighters Grant Program requirements stating “any vehicle exhaust extraction system obtained should be extensive enough to extract all toxic vapors and particulates emitted from internal combustion engines”**

Over the past two years, changes in health and safety standards have clearly identified that vehicle exhaust emissions, in particular whole diesel exhaust (PM10), is a cancer causing substance. The following organizations support our request and the justification for the vehicle exhaust extraction system for the health and safety of our firefighters, administrative personnel and visitors:

- **U.S. Dept. of Labor / OSHA Right to Know Law**, which states that an employer must disclose in writing to all employees if they are exposed to a chemical hazard which may be present in their place of employment.

- **New Jersey State Department Health, Division of Environmental and Occupational Health Services** –

Bulletin revised February 2001 states when diesel fire trucks idle inside the fire station the exhaust generated can spread throughout the station, where it will darken walls and settle on food and clothing. Diesel exhaust can also effect the health of those who breathe it. This bulletin will give information on these health effects and make recommendations for controlling expose to diesel exhaust in fire stations.

- **National Institute of Occupational Safety and Health** - 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.”

- **American Conference of General Industrial Hygienist - ACGIH** – The threshold limit value (TLV) for diesel has been proposed to be reduced from 5mg/m³ to a new more aggressive standard of 0.020mg/m³ elemental carbon.

- **National Fire Protection Association 1500-2002 Edition** – A.9.1.6 - 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”.

- **American Federation of State, County and Municipal Employees** – Advocates “local exhaust ventilation is the best way to reduce potential hazards to diesel exhaust”.

- **International Code Council (IMC)** – 502.14 Motor Vehicle Operation “ - In an area where motor vehicles operate, mechanical ventilation will be provided in accordance with Section 403. Additionally, areas in which stationary motor vehicles are operated shall be provided with a source capture system that is connected directly to the motor vehicle exhaust system”.

- **510.1 Hazardous Exhaust System** “Hazardous exhaust systems are exhaust systems designed to capture and control hazardous emissions generated from product handling or processes and convey those emissions to the outdoors.

The total funding request for the Modifications to Fire Stations and Facilities Category is \$59,600

Funds requested from the Firefighting Equipment Acquisition Category will be used to place in service a Bullard TI Commander thermal imaging camera (TIC). It is well documented, that thermal imagers increase the safety and effectiveness of all fire rescue activities. Thermal imagers offer a greater advantage in more rapid intervention in locating and extinguishing hidden fires, thereby reducing the level of damage to structures. This would also help reduce time utilized searching for fire victims decreasing the potential danger to firefighters during this process.

The camera would be used by our Rapid Intervention Team (RIT) providing a more rapid location of trapped firefighters and increasing overall firefighter safety at a cost of \$17,000. This camera would include a Bullard 4-channel wireless remote transmitter with TV/VCR at a cost of \$4,500 that would assist the Incident Commander, and provide a valuable training tool for our training department.

The total funding request for the Firefighting Equipment Acquisition Category is \$21,500

WHY THIS PROGRAM WOULD BE BENEFICIAL TO YOUR COMMUNITY AND / OR DEPARTMENT:

The program designed for this proposal would provide numerous benefits to the community of Lindenwold and to the fire department that serves it.

The Borough of Lindenwold has become a highly developed borough of 4.6 miles located in central Camden County, in the State of New Jersey. According to the year 2000 census, the population that our volunteer department serves and provides 24 hour protection is 17,414 residents. This includes, 4,500 private dwellings, 5,501 units in 23 apartment complexes, 1,233 units in 3 condo complexes, 3 grade schools to include 1 parochial totaling 2,700 students, 1 middle school and a new high school with 1,392 students, 6 daycare complexes with 300 students, 10 churches, 225 business, 1 senior complex with 100 residents, 3 industrial complexes and 1 sports complex. Lindenwold Fire Department is a volunteer-based department consisting of more than 90 active volunteer members. This department has been dedicated to the preservation of life and property since it's beginning in 1938. Over the years, our personnel have strongly voiced their concerns about the hazards of diesel exhaust and how it may be affecting their health, presently and long term. Many of our department members are aware that there is a solution available, but in the past the implementation of the vehicle exhaust extraction system was considered an unfunded mandate. Now that AFG funds are available, we are seeing more pressure to act in the best interest of our firefighters, especially on all aspects of health and safety issues.

The benefits of installing the Airmation filtration systems in the Lindenwold Fire Houses are numerous and diverse. The benefits to the taxpayers will be in their wallets, less of their money will be used for rising medical costs and workers' compensation claims of firefighters related asthma, heart disease and heart attacks, as well as cancer related and respiratory diseases. The benefit to the volunteer firefighters will be two-fold; first as the dirty exhaust toxins are eliminated the firefighters will have a clean, healthy work environment with less time and fundraising money going to cleaning, maintenance, repair and replacement costs. Secondly, and more importantly, the health of the volunteer firefighters will be protected as their work environment is cleansed of the polluted exhaust fumes. Finally the installation of the Airmation Filtration System will bring the fire department and all three of its fire houses into statutory compliance and national compliance.

The accumulation of exhaust contamination is evident to anyone that visits any one of the Lindenwold fire stations is eminent. The toxic fumes have created a condition of sick building syndrome. Some of the effects of the sick building syndrome pertain to medical equipment/supplies, which are stored on the apparatus or in the station. The diesel exhaust has

contaminated our turnout gear, which is stored in the apparatus bays as well as the living quarters and public meeting areas of our stations. These areas are not only used by fire personnel but are routinely used for educating the community on fire safety. In particular, our stations are used for elementary school fire safety training, fire prevention open house emergency shelters, voting polls, etc. The Fire District offices are contained in one of stations, and their personal work 8hrs/5 days a week.

This proposal not only protects our members from exhaust emissions but has direct financial savings which are achieved by complying with energy efficient indoor air quality standards that reduce energy consumption allowing us to comply with U.S. Green Building Council standards (USGBC).

We believe our firefighters are our most valuable asset and that protection from the hazards of diesel exhaust is our highest priority. Although our firefighters are subjected to work related exposures on an intermittent basis, vehicle exhaust emissions are the only work related carcinogen that they are exposed to on a daily basis.

WHY THIS PROJECT CANNOT BE FUNDED SOLELY THROUGH LOCAL FUNDING:

From the roots of a small town volunteer department, we have historically looked to the future and prepared ourselves to offer the highest levels of service to the community and its citizens. This was a significant challenge and has been accomplished by the members of this volunteer fire company taking out a mortgage of \$250,000. This was used to totally renovate the building that the fire apparatus is housed in, including a new 1999 KME 102ft. Aerialcat Ladder. The borough residents did purchase the new ladder truck but the department did not wish to further burden them with additional taxes for the building renovation. Consequently, the members took it upon themselves to meet the financial obligation of the new mortgage, which has stretched us to our limit.

As a company, the members participate in many fundraisers, which include; a week long family carnival, hoagie sales, comedy nights and a mail solicitation. These fundraisers take a toll on our members and their families. In recent years, we have seen our ranks decline due in part to the extra time that is needed from our members to meet our financial obligations. The mortgage has left this company and its members with a modest budget.

Most of the department's budget goes to operation and maintenance and what is left over is not enough to fund new programs or acquisitions. This community is severely distressed and sees no immediate end to their weak economic condition. Raising taxes or asking the community for this funding would just add to that stress. What little we have been able to get, which is not much, we are fortunate to have.

There are no extra finances in our budget for the purchase of the requested equipment listed above, but the benefits that can be achieved through this program will be a valuable asset to our members and the community.

ANY ADDITIONAL RELEVANT INFORMATION THAT YOU WOULD LIKE US TO CONSIDER WHEN EVALUATING YOUR APPLICATION:

The Lindenwold Fire Department is a recognized leader in the area. The department is one that is committed to excellence, safety and our community.

This company has diversified and enhanced its level of service as a ladder and engine company. The need for a this program can only help our firefighters become more physically and mentally

able to perform life-threatening emergency scene tasks in the most efficient and expedient manner possible, this can only result in lives saved and keep property loss to the minimum.

Lindenwold Fire Department has a Mutual Aid agreement with all of the 37 municipals in Camden County. This program can only help us to continue serving these surrounding municipals, through the improvements this grant would provide to our Rapid Intervention Team (RIT).

We feel that we are prime example of the type of department that the FIRE Act is meant to help. The demands on our department are increasing disproportionately to our tax revenues. We do not have the resources to supply our firefighters with this equipment. Without funding provided through this grant opportunity, it would take several years for our company to acquire this equipment. To make this project come to pass, as our budget is modest and stretched to its limit.

We appreciate your support and would like to express our appreciation for the opportunities this grant program would provide.

2nd Sample Narrative

Good day to you all,

Our project description is a rather boring one, although certainly needed for the firefighters and citizens alike. It is a request for a AirMATION Exhaust Capture Ventilation System or in simpler terms a diesel exhaust system. This system would provide clean air for two (2) fire stations, with a total of 6 units, one for each truck.

Our Department has needed this system for many years to comply with NFPA and NIOSH/OSHA standards to prevent exposure to fire fighters and contamination of living and sleeping areas to exhaust emissions. Presently we have a very make shift way that we help to eliminate emissions. I will tell you all how. We have drive through stations, the bay doors are on a remote control so that when one door goes up so does the opposite door, we call it emission control. Well, you all know that this certainly is not the best way to handle a potentially life threatening chemical hazard to our firefighters and citizens but, it is better than nothing at all. I have tried to budget for city funds in the past only to be turned down due to a decline in our City's tax base created by the State cutting of State revenue to our City. All of course caused by the trickle down effect of post 9/11. We have tried to raise funds only to have the money taken away for other projects that the city father's feel are more important.

Not only do the firefighters benefit from this system but also citizens of our community. This is where the people vote and the school children come for many fire prevention classes. During Michigan's bad weather the trucks cannot be brought outside for the children to view so if we need to start up the trucks inside the building the children are being exposed to a potentially life safety situation.

We have checked into many exhaust systems and we agree that the AirMATION System would handle our Fire Departments needs. Foremost we can afford the annual low cost maintenance to keep this system up and running in the future.

3rd Winning Sample Narrative

A Winning Narrative for AirMATION Vehicle Exhaust Capture System

Application # is __fill in__

Project Description

Please provide your narrative statement in the space provided below:

The ___Name___ Fire Department consists of two (2) Fire Stations, ___Name_____ Fire and Rescue Company No 1 and ___Name_____ Park Volunteer Fire Company. The following is the breakdown of the improvements/repairs we desire to perform if we are awarded a grant.

Both Fire Companies have large banquet facilities that are used to not only provide income for the individual fire companies, but are also used to host large meetings for local civic associations. These rooms are adjacent to the apparatus rooms and when the equipment is started fumes fill the apparatus room and the adjoining areas. For this reason we are requesting funding to install exhaust systems for the apparatus rooms to alleviate this situation. By installing these units the Fire Department will now be in compliance with the NFPA standard 1500 2002.

We have attempted over the last 4 years to purchase and install these exhaust systems with funding provided from the local municipality via a capital bond. The item has been cut each year. We have been told that this is due to the lack of State funding provided to the Borough, meaning monies for other areas (Highway, Police etc) are also competing for the same bond money. The installation of these exhaust units will eliminate exposure to diesel fumes and Carbon Monoxide that are dangerous to your health and to the health of firefighters. With our two (2) fire departments consisting of volunteers, it is not uncommon for our apparatus to idle for 6 minutes while waiting for members to respond from home. Even with the bay doors open fumes fill the building especially during the warmer months. For any alarm of fire as many as 30 to 40 members can be in the process of donning their gear and preparing to respond. OSHA has suggested that possible percentage of fumes in the body, and you run the risk of harmful exposure in an uncontrolled environment. The installation of a dedicated exhaust system will remove these dangerous vehicle exhaust pollutants. The unit is installed by hanging on the ceilings above the vehicles. These air cleaners contain a progression of filter media designed to pull in both air-borne particulates and harmful VOC gases clearing the air of vehicle exhaust. Each unit moves 180,000 CFM of air per hour. The clean air returned is re-circulated within the facility eliminating pockets where contaminants collect.

The heating system is improved because nuisance particulate is no longer airborne. Vehicle fumes are cleared out and that Los Angeles haze is no longer a part of your environment. Parking garages, work bay areas and storage areas are kept clear and clean from harmful exhaust fumes. Employees are protected in the workplace, providing an environmentally healthy atmosphere. Diesel exhaust fumes have been shown, through laboratory and real world data, to have properties of toxicity, capable of creating a mutant and carcinogenicity.

Firefighter health and wellness has become a priority in the ___Name_____ Fire Department. We have currently implemented annual physicals for all members and have encouraged members to participate in physical fitness programs either in house or at our side facilities. We have also implemented a mandatory drug testing program and have the tools available to any members requiring assistance. To my knowledge, these programs are unheard of in other volunteer organizations and have been implemented with little or not resistance. As you can see the municipality in cooperation with the volunteers and their leadership has already made investments in the welfare of the fire department members and the installation of building exhaust systems would reaffirm this commitment.

Estimates for this work have been obtained under the New Jersey State Contract:

\$___AMOUNT_____ ___Name_____ Park Volunteer Fire Company's apparatus bays.

\$__AMOUNT_____ _Name_____Fire and Rescue #1

Copies of these estimates are available but I am not sure how to attach them with this grant application.

If you received a grant award in the 2002 process does your current request relate to your 2002 award? NO

If you answered yes, above, which of the following apply?

This request enhances the 2002 award

This request continues the 2002 award

This request completes the 2002 award