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September 22, 2015

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Ms. Jeanette Foisy, Town Administrator
Town of Deerfield
8 Raymond Road
PO Box 159
Deerfield, NH 03037

Re: Fire Department Risk Assessment

Dear Jeanette,

This letter will confirm my visit to the Deerfield Fire Department Central Station on September 11, 2015. I met there with you, Fire Chief Mark Tibbetts, Select Board Members and others at your request to conduct a risk assessment of the fire station and of fire department operations.

The assessment involved a tour of the facility and the apparatus. I questioned service testing of equipment and long term plans for the apparatus, equipment and facility in terms of replacement and/or upgrades. I also inquired about policy and procedures, membership and training.

As for the station it is well maintained though its age and size limit the ability for the agency to accommodate modern apparatus and modern fire service practices. Modern fire apparatus would need significant customization to fit in existing bays and the current station cannot easily accommodate diesel fume emission systems, decontamination rooms and other needs without significant renovation/addition.

From a procedural perspective I applaud the Chief and his staff. It is not often I encounter a small agency with the protocols and practices in place that I found in Deerfield.

To assist you, the Board and the department I have outlined my concerns and/or findings on the attached pages as recommendations. Please keep me apprised of any actions related to addressing the recommendations. I look forward to working with you to further the Town's risk management efforts.

Sincerely,



David A. Witham, CRM
Risk Management Supervisor

DAW/

**TOWN OF DEERFIELD FIRE DEPARTMENT
RISK MANAGEMENT RECOMMENDATIONS**

2015-01: COMMUNICABLE DISEASE / SANITATION:

Since fire and rescue personnel commonly encounter blood and bodily fluids, measures for disinfection of equipment and personnel need consideration. Included would be separate rooms/areas for disinfecting equipment and personnel. This area should be well lit with adequate ventilation, floor drains and a hands-free operable sink(s). All drains should flow to a sanitary sewer system and should not contaminate other areas of the station.



Date Completed: _____ Or Estimated Date of Completion: _____

Actions Taken (or to be taken):

2015-02: DIESEL EMISSIONS MANAGEMENT:

Manage the diesel emissions produced by apparatus and other equipment. There are several ways to manage said emissions. They include:

- Source Capture – Hoses affixed to vehicle exhaust vent emissions directly to the outside (i.e. Plymovent®).
- Space Ventilation – Large fans and make-up air louvers vent the air in the space over a predetermined time based on space volume.
- Filters – Truck mounted filters process emissions to remove harmful contaminants (i.e. Ward Diesel®).
- Air Purification – These ceiling mounted units purify air removing harmful contaminants by passing the air through filters (i.e. AirMation®)



All four methods are used by other agencies statewide and all have their respective benefits and drawbacks. Space and other restrictions in the current facility may make installation of any system difficult at best.

As with any system, the manufacturer and/or engineer should be involved to determine the type and size of units needed for maximum operational effectiveness.

Date Completed: _____ Or Estimated Date of Completion: _____

Actions Taken (or to be taken):

2015-03: FIRE PROTECTION SYSTEMS:

The facility does not have any fire suppression systems. While alarms may help with early notification and evacuation, the age and nature of the station makes it susceptible to rapid fire spread. In addition, the overcrowded conditions would make firefighting operations very dangerous inside the building.

Fires in these types of facilities often generate larger losses to equipment than facilities itself. Equipment stored indoors likely has a higher value than the building itself.

Ultimately, the facility should have designed and installed a modern fire protection system(s) for life and property protection.



Date Completed: _____ Or Estimated Date of Completion: _____

Actions Taken (or to be taken):

2015-04: GEAR STORAGE ROOM:

The increasing number of firefighters with cancer and job-related health issues demands attention to restricting firefighters' exposure to carcinogens on the job and in fire stations. To that end consider the storage of turnout gear and equipment in a ventilated room away from administrative and living areas. Provide separate laundry areas for turnout gear.



Date Completed: _____ Or Estimated Date of Completion: _____

Actions Taken (or to be taken):

2015-05: OVERHEAD DOOR SAFETY SENSORS:

Install safety sensors on all overhead doors with automatic openers/closers. So called entrapment protection requirements are aimed at reducing the potential for entrapment between the edge of the garage door and the floor and have been required since 1982. Safety sensors have a reversing feature that senses obstructions.



Date Completed: _____ Or Estimated Date of Completion: _____

Actions Taken (or to be taken):

2015-06: SCBA FILL STATION:

Upgrade the SCBA fill station. The station shall fully enclose the cylinder during filling to contain the fragments if a cylinder ruptures. Moreover, the system shall direct the concussive air blast away from the operator and bystanders. A warning sign shall indicate the hazards inherent in the operation of filling SCBA cylinders.



Date Completed: _____ Or Estimated Date of Completion: _____

Actions Taken (or to be taken):

2015-07: COMPRESSED GAS CYLINDER SAFETY:

Both SCBA/Cascade air cylinders and oxygen (O2) cylinders are used in the facility. All cylinders must have valve protection caps in place both those in use and those in storage. In addition, all cylinders must be secured to the wall to prevent tipping even when empty. Several oxygen cylinders were found unsecured and the SCBA cascade cylinders lacked valve protection caps.



Date Completed: _____ Or Estimated Date of Completion: _____

Actions Taken (or to be taken):

2015-08: VACCINATION PROGRAM:

Consult with the Town's designated medical professional as to the need to re-establish a comprehensive vaccination program for firefighters. Increasingly first responders are being exposed to a sicker population and thus more communicable diseases. It is more important to consider protection through vaccinations such as Hepatitis B, Varicella (chicken pox), Tetanus and others as indicated by risk.

Date Completed: _____ Or Estimated Date of Completion: _____

Actions Taken (or to be taken):

2015-09: GENERAL SPACE CONSIDERATIONS:

As noted, the Deerfield Central Fire Station, due to age and size, limits the ability for the agency to accommodate modern apparatus and modern fire service practices. Modern fire apparatus would need significant customization to fit in existing bays and the current station cannot accommodate diesel fume emission systems, decontamination rooms and other needs without significant renovation/addition. In addition, existing conditions are restrictive and leave little room for error when moving apparatus in and out and for fire personnel boarding equipment. Below are several pictures of exiting conditions.

