

## Fire Pump Inspection and Testing SOP

**Purpose:** To ensure the diesel powered fire pump located in Vail B34 of the Medical School will be inspected, tested and maintained in accordance with NFPA 25 (The Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems – 2008 Edition). Weekly tests will be conducted without flowing water in a “no-flow” or “churn” method. Annual tests will flow water.

**Scope:** This procedure applies to the fire pump located in Vail B34 (Medical School).

### **Responsibilities:**

- A. Supervisors must ensure the inspection and testing is completed weekly, the employee has the tools necessary to complete the work, the work is completed following the applicable codes and standards and documentation is complete and filed.
- B. Employees must complete the work following applicable codes and standards, document the work done and initiate repairs of the system as needed.
- C. EHS will maintain records, review program and update as needed and recommend training.

### **Procedure:**

1. Prior to beginning the inspection/test – the inspector will contact the following and make them aware inspection/testing is being done at a specific location:
  - a) Department of Safety and Security (646-4000)
  - b) AHJ [Hanover Dispatch(643-3424)]
  - c) Heating Plant (646-2344)
2. The control panel for the fire alarm system in Vail/Remsen, will be deactivated during the 30 minute inspection/test of the fire pump. Inspector will contact FO&M dispatch to have the alarm panel deactivated by the FO&M technician. The inspector will begin the inspection/test.
3. The pump will be monitored by the inspector during the inspection/test.

4. Ensure engine oil and coolant levels are sufficient.
5. Start the pump with a drop in system pressure. To do this, a two inch drain valve will be opened. Record the pump starting pressure.
6. Check the pump packing glands to verify that a slight discharge of water is visible. If no water is dripping, adjust the packing gland nuts appropriately.
7. Check for excessive vibration, unusual noise, or other signs of malfunction. Make corrections as needed. Discontinue the test if destructive failure appears imminent. Make repairs as soon as possible. If all appears normal continue with the test.
8. Record the system suction and discharge pressures. Record other system data as listed on the appropriate checklist.
9. Observe the time for the engine to crank, start and reach running speed.
10. Observe the engine oil pressure, speed indicator, water and oil temperature periodically while running. Record any abnormalities on the checklist.
11. Check the heat exchanger for cooling water flow.
12. Verify that the pump operates for the appropriate time period; a **minimum** of 30 minutes for diesel motor.
13. Periodically verify that the pump and driver are not overheating during the test.
14. The Fire Pump Inspection and Testing Checklist will be completed. (See attached)  
An inspection/test form will be completed for each week.
  - a) Deficiencies will be noted during the inspection/test.
  - b) Those that can be corrected immediately will be corrected and documented on the inspection/testing form.
  - c) Work orders will be issued for those deficiencies needing repair on the day of the inspection/test or at the conclusion of the inspection/test. Or a specialist third party will be contacted for immediate repair.
  - d) A copy of the work order/repair request will be attached to the inspection/testing form.

- e) Deficiencies of a significant nature (that threaten the safety of those in the building or the ability of the system to notify responders) may require mitigating measures appropriate to the hazard. Dartmouth College in conjunction with the AHJ will determine appropriate measures based on the building, occupancy, nature and duration of the impairment and condition of other fire protection systems and features.
15. The control panel for the fire alarm system in Vail/Remsen will be reactivated. Any other loops taken out of service will be put back into service.
16. Upon completion of the inspection/test the inspector will notify:
- a) Department of Safety and Security (646-4000)
  - b) AHJ [Hanover Dispatch(643-3424)]
  - c) Heating Plant (646-2344)
17. The completed Fire Pump Inspection and Testing Checklist and work orders issued will be filed with the Fire and Life Safety Manager.
18. Upon completion of a deficiency repair, the system component(s) will be inspected/tested. A completed Fire Pump Inspection and Testing Checklist(See attached) will be filed with the Fire and Life Safety Manager.

---

Jason Angell, Fire and Life Safety Manager

---

David Harris, Director DMS Facilities

May 25, 2010