



THE COMMONWEALTH OF MASSACHUSETTS  
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT  
DEPARTMENT OF LABOR STANDARDS

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January 28, 2018

DLS File: 19S-3487

Eileen Donoghue  
City Manager  
City of Lowell  
375 Merrimack Street  
2nd Floor, Room 43  
Lowell, MA 01852

**WRITTEN WARNING AND ORDER TO CORRECT**

Pursuant to M.G.L. c. 149, §§§ 6, 6 ½, and 113, the Department of Labor Standards ("DLS") is charged with the responsibility to investigate occupational hazards in the workplace, to recommend controls to reduce such hazards, and to assist counties, municipalities and state agencies in complying with applicable workplace safety and health laws, regulations, and recognized industry standards.

On January 7, 2019 the Department of Labor Standards ("DLS") conducted a workplace safety and health inspection for insufficient heat at the Lowell Public Schools ("Lowell Schools", "Respondent"). DLS has received multiple complaints of insufficient heat in multiple Lowell School buildings during 2017 and 2018. DLS handled these complaints via phone, and after each complaint received assurance from Lowell Schools that the heating system had been repaired and adequate heat was now being provided. In September and December 2018 DLS received new complaints regarding insufficient heat. Based on these new complaints, DLS determined that a site visit was necessary to evaluate workplace safety conditions for school employees.

DLS identified conditions that place employees at risk of work-related injury or illness, and issues this Written Warning and Order to Correct to the Respondent to correct those conditions in accordance with Massachusetts General Laws and Federal Regulations. Respondent is advised to apply the following corrective actions and recommendations as appropriate to all work locations.

## Summary

On January 7, 2019 a representative of DLS met with senior officials from the Lowell School Department and the City of Lowell City Manager's office and Department of Public Works. Maintenance of the Lowell Schools buildings, including the heating systems, is under the jurisdiction of the Land and Buildings Division of the Department of Public Works, which falls under the jurisdiction of the Lowell City Manager. The purpose of the meeting was to evaluate employee safety. The scope of the DLS site visit did not include student safety.

Attendees at the meeting included School Department Acting School Superintendent Jeannine Durkin, Interim Assistant Superintendent of Finance and Operations Billie Joe Turner, and Facilities Director Rick Underwood. Attending from the City of Lowell were Assistant City Manager Kara Keefe-Mullin, and Interim DPW Commissioner Clancy Christine.

Following the meeting, the DLS representative was escorted by Interim DPW Commissioner Clancy Christine and School Facilities Director Rick Underwood on an on-site inspection focused on the heating systems of all three buildings of the Lowell High School and the Greenhalge School.

Topics discussed in the January 7, 2019 meeting include: the operational structure, roles and responsibilities, and staffing of the different city departments relative to maintaining heat in the schools; city operational procedures relative to heat complaints; technical aspects of the heating systems; a technical review of recent insufficient heat incidents; new measures initiated in January 2019 to repair heating system components; and the status of any MSBA grant applications for repair or replacement of school boilers.

Mass. Gen. L. Ch. 149, section 113 requires that employers provide adequate heat during the period from October 15 through May 15:

“Every factory, workshop, manufacturing, mechanical and mercantile establishment, railroad freight house, railway express terminal, public garage and premises used by express, trucking the transportation companies, and any other building in which a person is employed, other than a building under construction, shall be well lighted, well ventilated and kept free from unsanitary conditions. The work rooms therein in actual use shall be properly heated during the period from October 15 to May 15, according to reasonable rules and regulations adopted by the Department establishing minimum requirements with reference thereto.”

**Condition:** Heating systems and heating systems components in the Lowell Schools are not being maintained and operated as designed, resulting in frequent incidents of insufficient heat in portions of various schools in the Lowell Public Schools. This condition has been on-going for several years.

Further detail on the condition that heating systems and heating systems components are not being maintained:

- It was reported to DLS that 10 Lowell Schools buildings are designed to have two operational boilers to provide heat, but currently only have one functional boiler.
- It was reported to DLS that in the High School 1980s building, of the 19 rooftop HVAC units, only 15 were operating recently. Two non-operational units were repaired within the past few weeks, and two units are still non-operational, but are scheduled for repair.
- In the steam plant which houses two large boilers and provides heat to the High School 1922 building and the Freshman building, the DLS inspector observed one of the boilers as non-functional and currently under repair. It was reported to DLS that the one condensing unit that feeds both boilers needs replacement.
- In the Greenhalge School, the DLS inspector observed the following: only one of the two boilers was operational. Of the two circulating pumps, only one was operational and this pump sounded to be in mechanical distress. If this pump fails, there is no back-up mechanism currently in place to provide heat to this school. There was an audible and significant air leak in the compressor which runs the pneumatic portion of the heating system, such as thermostats.
- On the day of the DLS inspection, the Greenhalge School was closed due to a major flood within the school. It appears that a fresh air intake damper in a unit ventilator (univent) in an upper floor classroom remained open during cold temperatures, and a water-containing coil in the unit froze and broke during the night, resulting in major flooding within the school. The malfunction of the univent damper indicates a lack of maintenance.
- DLS was provided with a copy of the city-commissioned July 2018 report "Organizational Study of Facilities Maintenance Lowell, MA" prepared by the Edward J. Collins, JR. Center for Public Management, which identifies long-standing challenges relative to maintenance of school facilities. A similar report from 2012 is referenced in the 2018 report.

**Massachusetts General Law:** M.G.L. c. 149, §§§ 6, 6 ½, and 113

**Corrective Action Required:** Return all components of all heating systems and heating system controls in the Lowell Schools to full operational status in accordance with the system design.

Prepare a heating system status report for each school:

- Make a listing of the components of the heating system, including but not limited to rooftop HVAC units, boilers, pumps, piping, baseboard heating units, radiators, valves, compressors, condensers, thermostats, univents, manual system controls, and computerized system controls.

- Identify whether each component is currently operational.
- If a component is currently operational, identify if immediate maintenance or repair is needed to keep the component operational.
- If a component is not operational, identify the necessary repair, or indicate if replacement is required.
- Outline a plan, priority and a timeframe for repair or replacement of each component.
- Record when the repair or replacement for each component is completed.
- Provide DLS with updates to these reports until completion of repairs as follows:
  - October 15<sup>th</sup> through May 15<sup>th</sup> biweekly
  - May 16<sup>th</sup> through October 14<sup>th</sup> monthly
  - Highlight progress made since last report

It was reported to DLS that multiple HVAC contractors have been brought into the Lowell High School in the past few weeks and that multiple repairs have occurred. It was also reported to DLS that a contract has been set up and will begin shortly for maintenance on the non-functional boilers in the elementary and middle schools to determine if they can be returned to operation. These completions can be recorded in the requested heating system status reports outlined above.

It was reported to DLS that a Facilities Audit report conducted by EMG was presented in December 2018, therefore much of the requested information for the school heating system status reports may currently be available.

**Proof of Corrective Action:** Provide DLS with copies of heating system status reports. When completed provide DLS with a written statement that all components of all heating systems and heating system controls in the Lowell Schools have been returned to full operational status in accordance with the system design. Provide supporting documentation for this statement such as completed work orders, purchase orders, photographs, or other documentation.

**Condition:** There are 10 school buildings in the Lowell Public School system that are designed for two boilers, but that only have one operational boiler. There have been several instances during the 2017 and 2018 winters when the one functional boiler shuts down during the night, the boiler is not turned back on until the morning when the custodian arrives. Occupants report that it can take most of the day for the school to return to an adequate temperature.

There is an automated emergency notification system for all school buildings that alerts selected individuals when a school boiler shuts off in the night. This emergency notification system has not been operational for some time. It was reported to DLS that this system was repaired the week prior to the DLS inspection. This system notifies two individuals, the Schools Facilities Director, who is currently taking the lead on responding to these notifications, and the Deputy Commissioner of the Land and Buildings Division.

**Massachusetts General Law:** M.G.L. c. 149, §§§ 6, 6 ½, and 113

**Corrective Action Required:** Develop an effective means of monitoring and provide sufficient staffing to promptly identify when a boiler has shut down during the night, and to turn it back on in a timely manner to ensure that the school has adequate heating at the start of the school day. Increase the level of monitoring during periods of extremely cold temperatures.

Feasible means of correction include: adding additional staff to the emergency notification system for when a boiler is shut down; or having an overnight staff person(s) conduct rounds to physically check the boilers.

**Proof of Corrective Action:** Provide DLS with a written operating procedure for how overnight monitoring and re-starting of boilers will occur to ensure adequate heat at the start of the school day in all schools.

Item No. 003

**Correction Due Date:** February 28, 2019

**Condition:** Long-term lack of a regular inspection, maintenance, and repair program of school heating systems has led to widespread equipment breakdown of heating system components throughout Lowell Schools. Currently inspections, maintenance, and repairs are not tracked, so it is not known which equipment needs inspection, maintenance, and repair and when this is needed.

**Massachusetts General Law:** M.G.L. c. 149, §§§ 6, 6 ½, and 113

**Corrective Action Required:** Implement an inspection, maintenance, and repair program in accordance with manufacturer's guidelines to ensure that school heating systems are maintained and operated as designed. Computerized heating system controls at the central level and local school level must be kept upgraded in synchronicity so that they can communicate with each other and operate as designed.

**Proof of Corrective Action:** Provide DLS with a written statement that an inspection, maintenance and repair program has been implemented. Provide supporting documentation such as maintenance schedules and maintenance software system reports.

## **RECOMMENDATIONS**

(Recommendations are provided to strengthen the safety program. Recommendations are not mandatory and documentation of implementation is not required.)

Review and implement the recommendations in the city-commissioned July 2018 report "Organizational Study of Facilities Maintenance Lowell, MA" prepared by the Edward J. Collins, JR. Center for Public Management relative to school heating systems.

## **SAFETY AND HEALTH PROGRAM MANAGEMENT FOR MUNICIPALITIES**

The following Recommendations are provided as part of good standard work practices. Cities and Towns are encouraged to develop a Safety and Health Management System which includes:

### **Management Leadership**

- Establish a department and city-wide Safety & Health Policy.
- Establish management and employee accountability.
- Authorize a joint labor-management Safety Committee.
- Set goals for safety.

### **Control Risk**

- Establish written safety procedures for department tasks.
  - Sample safety programs are available at [www.mass.gov/dols/wshp](http://www.mass.gov/dols/wshp).
- Provide safe and adequate equipment to perform job tasks:
  - Operations equipment
  - Safety equipment
- Inspect and maintain equipment on a preventive maintenance schedule.
- Pre-plan job tasks.
- Follow established industry standards for workplace safety.
- Conduct periodic workplace inspections and control hazards.
- Provide new hire and annual training regarding workplace safety.

### **Measure Performance**

- Monitor department injury patterns and injury costs. A worksheet for determining injury
  - Patterns and injury costs in your city/town is available at [www.mass.gov/dols/wshp](http://www.mass.gov/dols/wshp).
- Conduct accident investigations and determine preventive strategies.
- Conduct periodic self-audits to evaluate safety conditions.
- Compare performance to annual safety goals.



## ORDER TO CORRECT

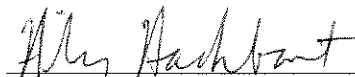
A Correction Due Date has been established for each hazardous condition listed in this Written Warning in which a corrective action is required. The Respondent should notify DLS promptly in writing that appropriate corrective action has been completed within the time frame set forth in the Written Warning and Order.

A Corrective Action Response Form is attached for your convenience. Send supporting documentation, such as photographs, training records, written programs or purchase orders to: Hilary Hackbart, Department of Labor Standards, 37 Shattuck Street, Lawrence, MA 01843.

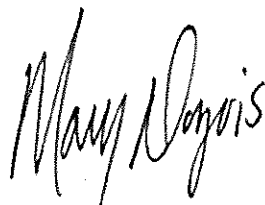
An extension of Correction Due Dates for a particular item may be requested in writing if the Respondent can demonstrate correction of the remaining items, demonstrate progress towards correction of the hazard, and give assurance that interim safeguards are in use to protect employees from the hazard. Requests can be submitted to Hilary Hackbart, Department of Labor Standards, 37 Shattuck Street, Lawrence, MA 01843.

### CIVIL PENALTY

Failure to comply with the requirements set forth in this Written Warning and the corrective measures set forth in the associated Order to Correct within the period of time specified may result in the issuance of a civil citation with monetary penalties and other civil penalties as provided by law, pursuant to MGL c. 149, § 6.

  
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Hilary Hackbart  
Industrial Safety and Health Inspector  
Department of Labor Standards

Approved by:

  
\_\_\_\_\_  
Mary Dozois, CIH  
Supervisor, Workplace Safety & Health Program

**CORRECTIVE ACTION RESPONSE FORM**

DEPARTMENT OF LABOR STANDARDS  
Workplace Safety & Health Program for Public Employees

*Return to:*  
Hilary Hackbart  
Department of Labor Standards  
37 Shattuck Street  
Lawrence, MA 01843  
hilary.hackbart@mass.gov and 617-626-6507

**Case File Name** Lowell Public Schools  
**Case File Number:** 19S-3487  
**DLS Engineer:** Hilary Hackbart  
**Inspection Date:** January 7, 2018

**Item No. 01** **Correction Due Date:** February 28, 2019  
**Correction Date:** \_\_\_\_\_  
**Corrective Action Taken:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Item No. 02** **Correction Due Date:** February 28, 2019  
**Correction Date:** \_\_\_\_\_  
**Corrective Action Taken:** \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Item No. 03** **Correction Due Date:** February 28, 2019  
**Correction Date:** \_\_\_\_\_  
**Corrective Action Taken:** \_\_\_\_\_  
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\_\_\_\_\_

Note: An extension of the time frame set for the correction of the serious hazards may be requested in writing if you have made a good faith effort to correct the hazards, show that the

delay was beyond your control, and give assurance that interim safeguards are in use to protect employees from the hazard. To request an extension, send a request in writing to: Hilary Hackbart, Department of Labor Standards, 37 Shattuck Street, Lawrence, MA 01843 or you may email the request to [hilary.hackbart@state.ma.us](mailto:hilary.hackbart@state.ma.us).

Employer name, printed/typed, title \_\_\_\_\_

Signature \_\_\_\_\_ Date \_\_\_\_\_