

MAINE STATE LEGISLATURE

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The Maine Fire Protection Services Commission

Live Fire Training Facility Engineering Study Summary

The Maine Fire Protection Services Commission (Fire Commission) along with the Maine Fire Services Institute (MFSI) have spent the better part of two years working to analyze and improve live fire training facilities in Maine. Currently MFSI is limited to six locations state-wide that are suitable to conduct live fire certification training evaluations, down from seven a few years ago. In October 2017, MFSI commissioned an engineering study of these seven locations as a risk management tool and to comply with current National Fire Protection Association (NFPA) standards. This is a summary of the results of that study of those current facilities along with other conditions that plague training for Maine's firefighters. While the engineering study provides hard facts about the current conditions of these facilities, it did not address their overall availability to train firefighters or the actual training capabilities available at each location which this summary further explains.

Firefighters in the State of Maine are required by the Bureau of Labor to train and be proficient in tasks before performing those tasks on the fire ground. These facilities were built and are maintained by local fire organizations and communities around the State and are the only locations that firefighters can train and become certified for interior live fire operations inside buildings. While these sites have served us well, the latest was built in the mid-nineties and all of these have received only sporadic repairs over the years due to limited resources. Facilities studied include those in Hollis, Yarmouth, Auburn, Wiscasset, Bangor, Ellsworth and Caribou; however MFSI no longer utilizes the Wiscasset site due to obvious cracks in the building's exterior concrete blocks that concerned State officials.

Knight Consulting Engineers was selected by MFSI through an RFP process to perform the engineering study due to their experience in studying live fire training facilities and applying the applicable NFPA standards and guidelines. The study concluded that the Bangor and Wiscasset facilities must receive repairs before they can be used again. The Wiscasset site requires significant repairs.

Here is a summary of the notable conditions that were noted in the engineering report:

- Wiscasset
 - Poor condition; repairs need to be made before continued use. Replacement of building recommended
 - Concrete walls heavily cracked, including a large crack in the concrete block wall second floor
 - Steel beam supporting second floor failing, needs additional support
 - Outside stairway needs additional reinforcement where attached to building
- Bangor
 - Repairs needed before next use
 - Burn room protection system needs repair around windows and has loose tiles



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The following facilities were considered in good condition for use with repairs needed as noted:

- Auburn
 - Second floor outside stairs & railings do not meet code, replacement needed
 - Foundation repair/patch required
 - Roof planks exposed to weather over stairs, covering should be added
- Caribou
 - Thermal panels cracked, replacement needed
 - Concrete block in burn room damaged, needs replacement or repair
 - Slab on second floor starting to sag, reinforcement recommended
- Ellsworth
 - Concrete in the burn rooms is spalling, will require constant monitoring and eventual repair/ replacement
- Hollis
 - Burn room needs additional protection added around windows and doors
- Yarmouth
 - Reinforcement post should be added to the beam in garage
 - Foundation cracks reported and will require repair if conditions worsen

In addition to the repairs needed, the current locations do not serve all of Maine's firefighters. Travel distances to these live fire training locations for many fire departments is substantial and in many cases unrealistic. Since safe fire operations require multiple fire apparatus to have back-up water supplies and hose lines for fire crews, this leaves departments shorthanded to protect communities while out of town training. Additionally, each fire evolution requires multiple support personnel to operate apparatus, provide instructional people and safety monitoring; thus reducing each department's available members as well as apparatus. Based on data from a 2017 survey of the fire service in Maine, the Fire Commission identified that eleven live fire training facilities would be required in order to reach 90% of Maine's fire departments within one hour of travel time. The current six active locations barely cover half of that need.

Another major concern is the lack of effective training operations for aerial apparatus. The standards call for a minimum of 40 feet of vertical height to properly train on aerial ladder operations. None of the current training buildings have these capabilities, since all are two-story buildings. The ability to add training towers to current or new facilities would allow departments to provide realistic training for aerial apparatus to meet the NFPA standards.

In closing the Maine Fire Protection Services Commission is promoting legislation that will address both the short and long term goals of MFSI to provide safe and effective training facilities strategically located across the State where generations of firefighters can safely and effectively train in compliance with all the applicable standards and guidelines in the future.