



STATE OF NEW HAMPSHIRE DEPARTMENT OF SAFETY

John J. Barthelmes, Commissioner

Division of Fire Safety

Office of the State Fire Marshal

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November 19, 2014

David L. Stack, Town Manger
Town of Bow
10 Grandview Road
Bow, New Hampshire 03304

Re: Bow Fire Station & Community Center Report

Dear Mr. Stack:

Please find the enclosed Bow Fire Station & Community Center Report conducted by Investigator Ron Anstey of the N.H. State Fire Marshal Office.

If you have any questions, please do not hesitate to contact Ron Anstey at 223-4289.

Sincerely,

Ron Anstey, CBO, CFI
Investigator/N.H. State Fire Marshal Office

Inspection Report

Bow Fire Station and Community Center
2 Knox Road
Bow, NH

On Thursday October 16, 2014, an inspection of the above referenced facility was conducted at the request of the Bow Select Board. The purpose of the inspection was to identify any outstanding violations of the NH State Fire code. The inspection was conducted by Investigator Ron Anstey. Bow Fire Chief Dana Abbott and Bow Building Inspector Bruce Buttrick were present for the inspection. A second structure on the property known as the Coffin Building was also inspected.

General Observations:

The assessing records for the structure provide the following information:

Area: 13,500 square feet

Stories: 1

Construction Type: Wood frame

Model: Commercial/Industrial

The structure is a non-separated mixed use consisting of a business/storage use (fire station), assembly use (community center), and storage, (used by other town agencies). Although not listed on the assessing card there is a second floor above the fire department office space. The space is used as a training room and qualifies as an assembly space with an occupant load that exceeds fifty people. There are no fire rated separations between the different use groups, consequently the entire facility is subject to the requirements of the most restrictive occupancy which in this case is the assembly use according to NFPA 101, 6.1.14.3.2. Even though the code provides for non-separated mixed use, however the use of this building presents some unique problems. Section 13.7.5.4 requires vehicle in assembly occupancies to have the batteries disconnected and it cannot have more than 10 gallons of fuel. The code also prohibits the storage of flammable or combustible liquids. Consequently the fire apparatus violate the code. There must be a two hour fire separation between the fire station apparatus areas and the assembly space.

In order to consider each type of occupancy on its own merit, the following separations would be required: the assembly spaces must be separated from the storage spaces by two hour fire resistance separations. The business occupancy must be separated from the assembly space by a one hour fire separation and from the storage space by a two hour separation.

The facility is not protected by an automatic sprinkler system or an automatic fire alarm system.

Exterior:

The generator is 23 inches from the combustible vinyl siding. The structure covering the generator is constructed of unprotected wood. In addition the exhaust stack for the generator terminates only 21 inches under the combustible cover.

NFPA 110 requires that the generator be no closer than five feet to a combustible structure, that would include the combustible covering and vinyl siding.

Remedy: Disconnect the generator or install it in accordance with NFPA 110.

Basement:

The basement area houses a gas fired boiler and a gas fired hot water heater. The room is required to be separated from the other area of the structure by a one hour fire resistive separation. In addition, sufficient combustion air must be provided for the gas fired units. NFPA 101, 8.7 and NFPA 54 Remedy: Install a one hour fire separation

Community Center:

Office Space: Uncovered duplex receptacle and IT wiring supported on EMT. The NFPA 70 requires covers on all electrical boxes and prohibits anything from being supported on EMT. Remedy: Remove anything attached to the EMT.

Interior finish: Much of the interior of the community center has untreated wood as the interior finish. This includes exposed structural members that support the mezzanine. Untreated wood does not meet the interior finish requirements in an assembly occupancy. The interior finish must be class A or B finish.

NFPA 101, 13.3.3.3 Remedy: Remove non-compliant finish or treat it, so as to meet the minimum interior finish requirements.

Mezzanine: The mezzanine space is used for general storage, most of which appeared to be combustible. It is constructed entirely of unprotected wood. The stairs that access the mezzanine do not meet the requirements for egress stairs. Storage spaces must be separated from the assembly space by one hour fire resistive construction, NFPA 101, 7.2.2.3 and 13.3.2.1.2 Remedy: Provide a one hour fire resistant separation and provide proper egress.

If the assembly space is used as a dance hall, discotheque, has a bar with live entertainment, or uses festival seating an automatic sprinkler system must be installed.

Storage room behind stage: This room is not separated by a one hour fire resistant rated assembly. NFPA 101, 13.3.2.1.2

This storage space extends into the back bay. In the back bay the floor/ceiling of this space is also used for storage. The floor/ceiling is noticeably bowing under the loading. The floor was not constructed to support the loading that it presently holds.*

Remedy: Install a one hour fire resistant separation and remove the storage until the structure can be repaired to support the weight according to the IBC.

Occupant load and egress capacity:

The assembly space measures 49 feet by 80 feet for a total of 3,920 square feet, not including the stage area. Using the formula of seven square feet per person, the occupant load for this space is 430 people. NFPA 101, 7.3.1.2

The assembly space has two remote exits as required by the code. The total exit capacity is 595 persons.

The assembly space does not have a fire alarm system. Assembly spaces with occupant loads exceeding 300 people are required to have a fire alarm system. NFPA 101, 13.3.4.1.1 Remedy: Install the required voice evacuation fire alarm system in accordance with NFPA 72.

Back Bay:

Storage mezzanine is not constructed to support the storage loading.* Remedy: Remove storage until the structure can be repaired to support the weight according to the IBC.

The door to the "cage" separating the space, when closed, prevents access to the second means of egress. The door to the cage should be removed and the egress should be clearly marked. NFPA 101, 7.5.1.1.1 and 7.5.2.2

Interior finish is untreated wood and does not meet the requirements of NFPA 101, 13.3.3.3. Remedy: Install new or treat the existing interior finish to meet the requirements NFPA 101.

The exit door has a threshold that is three inches high. The exit cannot have an elevation change that exceeds one-half an inch. NFPA 101, 7.2.3.1 Remedy: Repair or replace the threshold.

There were open junction boxes in the space. NEC Remedy: provide covers on all open electrical boxes.

Fire Station Office Space:

The commercial kitchen hood does not meet the requirements of NFPA 98. Remedy: The cooking appliances shall be disconnected until a hood system compliant with NFPA 98 is installed

The restroom does not have a mechanical vent. * Remedy: Install a vent in accordance with the International Mechanical Code.

Rear Bay:

Fuel tank for the generator is not protected from vehicular damage. NFPA 110. Remedy: Install the required protection

The exits for the space are 17 feet apart. This does not meet the remoteness requirement found in NFPA 101, 7.5.1.3.2, Remedy: Install a remote exit.

Second Floor:

The second floor is required to have two exits. It has two stairways leading from the space, however the two stairways are not remote from each other and therefore do not qualify as two exits. In addition, one stairway exits through the front apparatus bay which is a higher hazard level and not permitted. NFPA 101, 7.5.2.1 and 7.5.1.3.2. Remedy: This space shall not be used as occupied space.

Electrical System:

Only a few of the more obvious electrical code violations are noted above. A report submitted by Yeaton Associates dated October 7, 2013 gives a comprehensive evaluation of the facility and those items that are not compliant with the National Electrical Code and should be taken into consideration along with this inspection report. Remedy: Repair or replace electrical equipment that is addressed in the Yeaton report

*Those items marked with an asterisk denote conditions that are under the authority of the International Building Code and are noted in this report for informational purposes only.

Investigator Ron Anstey, CBO, CFI

RSA 155-A:11

155-A:11 Appeals of Decisions of the State Fire Marshal.

- I. Any person aggrieved by a decision of the state fire marshal relative to the application and enforcement of the state building code pursuant to RSA 153:8-a, I(a), or the state fire code, may appeal the decision to the board
- II. The board shall hold a hearing within 40 days of receipt of a complaint, unless an extension of time has been granted by the board at the written request of one of the parties and shall render a decision within 30 days of the conclusion of a hearing.

Source. 2002, 8:3, eff. Sept. 14, 2002. 2012, 242:16 eff. June 18, 2012