

ELEVATORS

THE GOOD, THE BAD, AND THE UGLY

What are the most common reasons for inspections to fail and how to prevent failing?

In 2014 the bureau conducted 887 New inspections across the state

- Of the 887 New inspections approx. 34% of those inspections failed the first inspection
- The reasons for the failure vary
- Most of the reasons for failure were attributed to the lack of communication between the contractor and the elevator installers.
- Other reasons include limited details provided for subsystems related to the elevators.
- A small percentage can be attributed to equipment failure at the time of the inspection.

Most common reasons for failures

- Fire alarm systems/controls: most inspections the fire recall/ alarm systems are not checked until the day of the inspection.
- Sump pumps not compliant with A17.1 3000gph, pump piping penetrating a floor before exiting the hoist way.
- Contractor not properly sealing the hoist way before inspection.
- Location of the initiating devices in pit, machine rooms and overhead hoist way.
- Machine room door rating if conventional installation.
- Equipment not related to the operation of the elevator in these spaces.

How to be sure you can pass the inspection the first time

- All elevator subsystems should be tested for compliance before the day of the inspection. Contractor review should be made before during and prior to the inspection to ensure that all equipment is compliance.

Fire alarm systems

- Most systems fail primarily because of program issues.
- Programming needs to meet requirements for phase 1 and phase 2 recall.
- If project requires sprinklers, Shunt requirements will need to be added.
- If sprinklers are installed in the elevator pits, the sprinkler will be located 24" from pit floor and the initiating devices located 48" from pit floor. To our knowledge, no initiating devices currently provided meet the NEMA 250 requirements, therefore cannot be installed below 48".

Fire alarm/ recall systems (cont.)

- Only initiating devices within 21 feet of the elevator doors at all floors served, can capture the elevator.
- New M.R.L. elevators where the controller is located in the hoist way, in a swing panel at the second floor, or pull out door buck at top floor, need to flash the fire hat if the imitating device at these locations is activated. These areas should be considered a machine space , machine room, control room, closet. Therefore flashing the fire hat in the car operating panel.
- If the facility has emergency power, provisions should be made to include lighting circuits for these locations.

Fire alarm/ recall systems (cont.)

- Normal lighting for control spaces, machine rooms , control closets, machine space, shall have a switch that control lighting adjacent to the controls, that meet the required amount light 19 ftc.
- Elevator contractor shall provide a means to prevent the public from coming into contact with elevator control equipment if it is being serviced by elevator techs during regular operating hours (portable barriers.)

Sump Pumps

- Sump pumps are required for all elevator installations
- The code requires that a pump with a rating of 3000 GPH be provided
- If the installations include multiple elevator installed in Group, # pumps will need to be provided or 1 pump with the combined GPH.
- Discharge lines for pumps shall not penetrate a floor.
- Hydraulic elevator installations may require an oil separator system be installed.
- Sump pump alarm control equipment shall not be installed in pit , hoist way, machine rooms.

Oil minder sump pumps

- These devices are designed to shut off the pump if the unit detects oil.
- This is not acceptable as the code requires the pump remain in operation.
- Junction boxes that installed in the pits for these devices contain electrical components that could require repair by unauthorized persons, having no formal training regarding the elevator equipment operations.
- Junction boxes for this equipment are not allowed in the pit , hoist way. Machine room , machine space , or control spaces.

Sub systems for elevator installations

- Hoist ways shall meet the fire rating consistent with the elevators travel.
- 1-4 floors hoist ways are required to meet a 1 hour rating.
- 4 floors and greater are to meet 2 hour rating.
- Machine room door requirement, 1-4 1 hour rating 4 floors and greater 2 hour rating.
- Phones and communications, all systems for communicating from within the elevator and out, shall be provided and operational at the time of the inspection.

Survey of all projects before final inspection

- All projects should be reviewed prior to final inspection. all subsystems should be tested for compliance, these include , Phones , fire alarm / recall systems, machine room cooling systems NCBC 3006.2
- All lighting at landings are complete and working.
- Floor finishes at all landing complete
- Hoist ways are sealed to meet rating.



CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

January 21, 2014

MEMO TO: All Elevator Companies

FROM: Joe Adams
Elevator Bureau Engineer

RE: 2013 A17.1 Code

Please be aware 2013 A17.1 Elevator Code will become effective April 21, 2014.
Building Plan approval date will be required on all New Installation Applications.

If Building Plan approval date is not provided after April 21, 2014, you will be asked to submit
a new application; no exceptions.

Thank you for your compliance.

/nfv

cc: Elevator Bureau personnel



CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

DATE: February 3, 2014

MEMO TO: Elevator Companies

FROM: Thomas M. Chambers
Bureau Chief

RE: Alternative Testing

Please be advised that the state of North Carolina Elevator and Amusement Device Bureau has determined that testing without the use of test weights will not be allowed, Ref: A17.1 Section 8.6.11.10 (Alternative testing). Weights will be required for this testing.

Please provide this information to those in your organization that conduct this testing.

Thank you for your compliance.

/nfv



CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

DATE: March 13, 2014

MEMORANDUM TO: All Elevator Companies

Tommy L. Petty

FROM: Tommy L. Petty
Deputy Bureau Chief

Annual Routine Inspection:

Effective March 6, 2014 the following policy will be enforced by our safety inspectors for all elevators and all related equipment.

- 1- Elevators and related equipment cited for required periodic testing more than 30 days past due will be given a 5-day notice to perform the delinquent testing. Failure to comply will result in the equipment being removed from service.
- 2- Suspension means with reduced diameter, rust, rouge or broken wires (device) will be shut down per the requirements of A.S.T.M. A17.6 Standard for Elevator Suspension, Compensation and Governor System, Section 1.10, 2.9 and 3.7 Replacement Criteria.
- 3- Any safety device not operating properly will result in the unit being shut down.
- 4- If safety inspectors write a second notice for any violation cited, the owner will be given a 10-day notice to correct the violations. Failure to comply will result in the unit being removed from service.
- 5- Our safety inspectors will issue 10 to 30-day notices on any other item found that is not covered above.

The 5, 10 and 30 days listed above will include weekends and holidays.

Alterations:

When performing an alteration, companies will be required to correct any and all violations cited on the previous inspection report relating to the equipment being altered. Failure to comply will result in the inspection not passing and being certified. This has been a policy for years but sometimes it's not done until the safety inspector brings it to your attention.

New Construction:

Before calling for an inspection, you need to be sure that all related work has been completed and tested. The permit to install the unit issued by this Bureau must be affixed to the front of the controller until the unit passes final inspection.

Pre-inspection check list attached



CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

January 26, 2015

MEMORANDUM TO: Elevator Companies

FROM: Thomas M. Chambers
Bureau Chief

Recently we have noted several projects throughout the state where (communication Bundles), similar to what Time Warner cable offers, are not meeting the requirements for elevator communications. Most of what we have observed is the phone equipment not recognizing loss of signal, thereby flashing the indicator as required.

All elevator contractors should confirm compatibility to ensure that the phone equipment being provided will pass testing. It is suggested that a review of 2.27 section of ASME A17.1 be conducted to ensure compliance.

Thank you for your cooperation.

/nfv

Cc: Elevator Inspectors/Supervisors



CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

DATE: March 11, 2015
MEMORANDUM TO: Elevator Companies

FROM: Thomas M. Chambers
Bureau Chief

Please be advised of the recent change in administrative rule 13 NCAC 15 .0307 effective March 1, 2015. Elevator contractors should make provisions to share the change with customers they have currently on contract maintenance. The rule change requires that all owners of regulated elevator equipment respond to the Department of Labor on or before 60 days from the date of the inspection where violations were cited. Failure of the owner or their designated representative to reply to our office that all violation were corrected can result in an additional visit by Department of Labor inspectors that will result in an additional inspection fee.

Please feel free to provide a copy of this communications to those customers currently on contract.

Thank you for your support.

/nfv

Cc: Bureau Supervisors/Inspectors



CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

DATE: March 11, 2015
MEMORANDUM TO: Elevator Companies

FROM: Thomas M. Chambers
Bureau Chief

Please be advised that any elevators installed after the effective date of the 2007 A.S.M.E A17.1 B44 code, will be required to perform Cat 5 rupture valve test. Any units installed before 2007 edition of A.S.M.E A17.1 will not be required to perform the Cat 5 rupture valve test unless the valve seal has been broken or removed.

Please disseminate this information to those employed by your company authorized to perform testing. Any questions contact our office or local inspector supervisor.

Thank you for your support.


/nfv

Cc: Bureau Supervisors/inspectors



CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

DATE: March 25, 2015
MEMORANDUM TO: All Elevator Companies
FROM: 
Thomas M. Chambers
Bureau Chief
RE: Permits Required

Effective April 1, 2015, all buildings that undergo a modernization that includes removal of life safety systems connected to elevator (fire alarm), lighting, and utility electrical systems are required to file a permit with this office. Owners and service providers are advised to ensure permit applications are submitted prior to beginning work or removal of any systems connected to the elevators.

Owners of buildings where fire alarm systems are upgraded or changed will also be required to file an application for alteration prior to commencing work on any system directly related to the operation of any elevator within the structure.

Thank you for your support in this matter.

/nfv

Cc: NCDOL Supervisors/Inspectors



CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

Safety Alert

During an accident investigation involving a Kone E5000 escalator, it was discovered that the step track weldments had failed, causing the step to develop lateral movement. This movement may have contributed to a person sustaining superficial wounds. During the investigation, steps were removed from the second unit (down unit) and the same failure of the step track weldments were noted. If you are currently servicing the E5000 escalators, steps shall be taken to remove these units from operation, until an inspection can be conducted by an inspector from this bureau. Please notify our office if you have any of these units on contract and in operation. Again, these units are to be removed from operation until they are inspected by one of our inspectors.

Respectfully,

Thomas M. Chambers
Bureau Chief

/cb



CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

DATE: November 9, 2015

MEMORANDUM TO: Elevator Companies

FROM: 
Thomas M. Chambers
Bureau Chief

RE: Correct codes on applications

Be advised when filing out an application for new and or alteration, repair, the correct edition for all applicable codes must be referenced. We are seeing applications being submitted, citing 2011 electrical codes as well as 2011 A18.1. Please ensure that all applications sent to this office are referencing the correct edition to all applicable codes, or the application will not be processed.

Thank you for your cooperation.

/cb




CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

DATE: January 6, 2016

MEMORANDUM TO: Elevator Companies

FROM: 
Thomas M. Chambers
Bureau Chief

RE: LULA Elevator Application Requirements

All companies must comply with N.C building Code 1104.Exc.1.1 ANSI 408, if the building in question has an aggregate floor area in excess of 3,000 sf above and below the entrance level, a standard elevator is required not a LULA. *Effective immediately*, any company submitting an application to install a LULA elevator must provide a letter from the local Building AHJ that confirms the proposed installation meets compliance with the aforementioned code requirements. This is a follow up to a previous letter sent to all companies regarding the installation of LULA elevators.

Thank you for your cooperation.

/cb




CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

DATE: January 20, 2016

MEMORANDUM TO: Elevator Companies

FROM: 
Thomas M. Chambers
Bureau Chief

RE: Requirements for Replacing Suspension Means

Please be advised of the requirements for replacing suspension means directed in A17.1. As per 8.7.1.7, 8.7.2.21.1, 8.7.2.21.2

8.7.1.7 Repairs and Replacements.

Repairs and replacements shall conform to 8.6.2 and 8.6.3

8.7.2.21.2 Addition of Suspension-Member Equalizers.

Where suspension-member equalizers are installed, they shall conform to 2.20.5

8.7.2.21 Suspension Means and Their Connections

8.7.2.21.1 Change in Suspension Members.

Where the material, grade, number, or size of suspension members is changed, the new suspension members and their fastenings shall conform to 2.20. When existing sheaves are retained using suspension members different from those originally specified, the original elevator manufacturer or a licensed professional engineer shall certify the sheave material to be satisfactory for the revised application.

All companies are required to obtain an application with this Bureau before any work is performed relating to the aforementioned components.

/cb



CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

DATE: February 18, 2016

MEMORANDUM TO: Elevator Companies

FROM: 
Thomas M. Chambers
Bureau Chief

RE: M.R.L. Requirements

Please be advised of recent information we have received from the field regarding M.R.L. installations. Control spaces, control closets, and machine spaces need to comply with the same requirements for machine rooms relating to lighting and power for service related tools and equipment. M.R.L. units that require service from a swing panel at a designated landing must provide lighting connected to the emergency power, if provided. If emergency power systems are not provided, provisions shall be made to provide the required lighting at that location in the event of building power loss. The same shall apply for units where the control equipment is located in the hoist way and serviced from the top of the elevator car. The operation of the fire service visual indicator (fire hat) shall flash intermittently if the initiating device at one of these location (control space, control closet, machine space) is activated.

Thank you for your cooperation.

/cb



CHERIE BERRY
COMMISSIONER

THOMAS M. CHAMBERS
BUREAU CHIEF
ELEVATOR AND AMUSEMENT DEVICE BUREAU

DATE: February 18, 2016

MEMORANDUM TO: Elevator Companies

FROM: 
Thomas M. Chambers
Bureau Chief

RE: Correction of Violations

Please be advised, effective today our inspection staff will no longer issue second and third notices for violations sited on routine inspections. If the inspector observes that a previous violation was not corrected, they have been instructed to give the owner 10 days to correct the violation. Failure to comply, can and will result in a return inspection and an additional inspection fee, and removal of the certificate of operation. Contractors should provide a copy of this directive to all customers they are currently under contract with. Owners are required by law to respond to this bureau that any and all violation sited on their equipment D.O.L. inspection report have been corrected. This form can be found on our website www.nclabor.com (standards and inspection section - elevator and amusements) under forms (corrected violations). The form shall be submitted electronically.

Thank you all for your attention.

/cb

Questions?

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