

**FISCAL AND REGULATORY IMPACT ANALYSIS FOR INCORPORATION OF NATIONAL SAFETY STANDARDS AND FEE CHANGES FOR
CERTAIN ELEVATOR, AMUSEMENT, AND TRAMWAY DEVICES**

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Rule related to:

Standards and Inspection Division, NCDOL's Elevator and Amusement Device Bureau (EAD)

Rules Proposed for Amendment:

Title: CHAPTER 15 – Elevator and Amusement Device Bureau:

13 NCAC 15 .0205 Tramway Requirements

13 NCAC 15 .0402 Responsibility for Compliance

13 NCAC 15 .0702 Elevator, Escalator, Dumbwaiter, and Special Equipment Annual Inspection Fees Schedule

13 NCAC 15 .0703 Amusement Device Inspection Fee Schedule

13 NCAC 15 .0705 Passenger Tramway Inspection Fee Schedule

Appendices:

Appendix A1: Proposed Text for Tramway Requirements

Appendix A2: Proposed Text for Responsibility for Compliance

Appendix B1: Proposed Text for Elevator, Escalator, Dumbwaiter, and Special Equipment Annual Inspection Fees Schedule

Appendix B2: Proposed Text for Amusement Device Inspection Fee Schedule

Appendix B3: Proposed Text for Passenger Tramway Inspection Fee Schedule

Appendix C: Salary Comparisons for EAD Supervisors and Inspectors

Impact:

State Impact: Yes

Local Impact: Yes

Private Impact: Yes

Substantial Economic Impact: No (Not over \$1,000,000.00)

Statutory Authority: NCGS §§ 95-110.5, 95.111.4, 95-120

Elevator Safety Act of North Carolina, Article 14A of Chapter 95

NCGS § 95-110.5. Powers and duties of Commissioner.

Amusement Device Safety Act of North Carolina, Article 14B of Chapter 95

NCGS § 95-111.4. Powers and duties of Commissioner.

Passenger Tramway Safety Act, Article 15 of Chapter 95

NCGS § 95-120. Powers and duties of the Commissioner.

I. EXECUTIVE SUMMARY

NCDOL is proposing to increase select elevator and amusement device inspection fees, update rules to add inspection fees for amusement devices not specifically listed in the existing rule (e.g. go kart tracts, simulators, small trains), and to incorporate by reference additional industry standards. Since the proposed rules changes have three distinct rationales for adoption, the reasons and impacts are summarized below.

Incorporation of Recent References to National Safety Standards and Current Edition Pricing – 13 NCAC 15.0402

NCDOL is updating the information for the industry standard applicable to tramways and funiculars, which is currently incorporated by reference in 13 NCAC 15.0205. This rule was last amended in 1992, and needs updating to reference the correct name of the American National Standards Institute (ANSI) B77.1 standard, which is *Passenger Ropeways - Aerial Tramways, Aerial Lifts, Surface Lifts, Tows and Conveyors*. ANSI produced new editions in 1973, 1990, 1992, 1999, 2006, 2011 and 2017. ANSI B77.1 is the primary industry safety standard for ski chair lifts, as well as other aerial passenger ropeways and tows. In addition, the N.C. General Assembly amended N.C.G.S. § 95-117 of the NC Passenger Tramway Act to add funiculars and gondolas to the definition of passenger tramway. Therefore, NCDOL is amending 13 NCAC 15.0205 to incorporate the ANSI industry standard for funiculars. This standard is ANSI B77.2, *Funiculars - Safety Requirements*, which establishes a standard for the design, manufacture, construction, operation, and maintenance of funiculars for passenger transport. The changes to 13 NCAC 15.0205 are technical in nature to reflect the update to the title, contact information for ANSI, the current cost for ANSI B77.1, and to incorporate by reference ANSI B77.2 for Funiculars. Please see Section 14(b) of Session Law 2017-211 (SB 16 – Business Reform Act of 2017) for the inclusion of funiculars and gondolas: <https://www.ncleg.gov/EnactedLegislation/SessionLaws/PDF/2017-2018/SL2017-211.pdf>

NCDOL proposes to incorporate by reference two additional American Society of Testing and Materials (ASTM) industry standards in 13 NCAC 15.0402. First, ASTM F1193, *Standard Practice for Quality, Manufacture, and Construction of Amusement Rides and Devices*, provides the minimum manufacturing requirements for amusement rides and devices and provides the minimum requirements for a written quality assurance program for an amusement ride or device manufacturer, or component supplier. Second, ASTM F770, *Standard Practice for Ownership, Operation, Maintenance, and Inspection of Amusement Rides and Devices*, establishes procedures for the operation, maintenance, inspection, and training for amusement rides and devices. Amusement rides are quickly becoming more computerized and complex; the incorporation by reference of these industry standards will provide more standards that the EAD inspectors may rely upon for the safety of the public. Additionally, the rule change requests a technical correction for previously incorporated standard ASTM F1159 - *Standard Practice for design of Amusement Rides and Devices that are*

Outside the Purview of Other F24 Design Standards; those technical changes reflect the update to the title, contact information for ASTM, the current cost for ASTM F1159.

It is extremely important for the public to have all the amusement device owners complying with the most current industry standards to ensure that rides function safely. The economic impact of this rule change will be minimal with the only expenses likely being the purchase of updated 2017 standard manuals by private businesses. NCDOL cannot determine actual economic cost to amusement vendors without knowledge of their publication date of standards manuals that each vendor currently owns.

Estimated Impact by Effected Party:

State Government: \$0

Local/Municipal Government: \$ Minimal

Private Business: \$ Unknown

Updating List of Amusement Devices Not Currently Enumerated in Existing Rules – 13 NCAC 15.0703

As technology and the nature of entertainment evolve, so does the types of devices that cater to a population which seeks new forms of entertainment. Such new forms of entertainment also come with some inherent safety risks to the public and thus require inspection to ensure they are operating within acceptable parameters to ensure the public is protected as much as possible from injury. With the addition of new types of amusement rides comes the risk of physical injury risks due to mechanical failures or noncompliance with safety protocols. The specific devices enumerated include portable rock walls (*EAD does not inspect permanent rock walls*), simulators (portable and stationary), and small fixed track trains. All these rides have been continuously inspected by EAD inspectors (thus no additional fiscal impact), but this requested rule change specifically lists these devices to eliminate any confusion as to the rate and whether they are subject to inspection by NCDOL. The requested rule change does include a new separate fee for the inspection of go kart tracks, which were previously included in the inspection of go karts.

Estimated Impact by Effected Party:

State Government: \$0

Local/Municipal Government: \$0

Private Business: \$5,400.00

Adjustment of Fees for Select Elevator, Amusement and Tramway Devices -13 NCAC 15.0702, 15.0703, and 15.0705

NCDOL proposes to increase select elevator, amusement and tramway fees listed respectively in 13 NCAC 15.0702, 13 NCAC 15.0703 and 13 NCAC 15.0705. The current fee structure has not been increased since 2007 and needs to be increased to reflect the cost of inspections that have risen due to increased training needs, retention of qualified inspectors, and increased travel costs. Inspection fee increases are necessary to make market-based staff salaries adequate to recruit and retain technical staff as EAD inspector salaries have fallen behind regionally and are significantly lower than private sector salaries. This is especially true in relation to the expanded roles of EAD inspectors who must inspect elevators, escalators, wind turbine elevators, construction lifts, a myriad of amusement devices, passenger tramways, and water slides over 15 feet in height. The EAD inspectors perform a vital role in ensuring that the safety and welfare of the public is well-guarded. NCDOL has determined that specific expertise is needed for individuals to perform inspections and to maintain on-going educational standards for new elevator designs and new amusement device designs, which are becoming more computer driven rather than purely mechanical. In order to ensure that current inspectors remain knowledgeable and competent in their job duties, the Commissioner has determined that a pay increase is required to attract and maintain competent inspectors, and for the positions to remain competitive with private industry. During the last five years, it has been increasingly challenging for the agency to fill EAD inspector positions, and in some cases the agency has been unable to fill multiple vacancies, especially in larger metropolitan areas, for extended periods of time due to non-competitive salaries. Many vacancies have been posted for months with either no applicants or only under-qualified applicants seeking the position(s). NCDOL anticipates that the increase in salaries will reduce inspector turnover, especially those inspectors leaving to work in private industry. The increase will also solidify the inspection quality and allow EAD to implement more efficient use of inspectors' time so that all elevators are inspected on an annual basis.

Estimated Cost by Effected Party:

State Government: \$25,835 (recurring); \$11,944-\$22,911 (non-recurring)

Local/Municipal Government: \$10,860

Private Business: \$665,947

Estimated Benefit by Effected Party

NCDOL: \$ 702,642 (recurring)

II. STATUTORY AUTHORITY FOR INSPECTIONS AND FEE ESTABLISHMENT

The NCDOL's EAD Bureau is charged under the Elevator Safety Act of North Carolina, the Amusement Device Safety Act, and the Passenger Tramway Safety Act with inspecting and testing for acceptance all new, altered or relocated devices or equipment subject to the Acts; making maintenance and periodic inspections and tests of all devices and equipment subject to the Acts; and issuing certificates of operation, which certify that such devices and equipment are found to be in compliance with the Acts. These Acts allow DOL inspectors to perform safety inspections on a myriad of devices and provide the ability to set fees for inspections up to the stated statutory limitations.

The Elevator and Amusement Device Bureau is a 100% receipt-funded bureau within the agency. In addition to paying all salaries and associated costs for all EAD employees, EAD funds portions of other agency positions within NCDOL that support EAD and pays for services provided by the NC Department of Justice's Labor Section attorneys. The Acts' synopses below provide a quick summary of the legal authority and fee limitations for each act.

Elevator Safety Act

Pursuant to NCGS § 95-110.2 of the **Elevator Safety Act** applies to the design, construction, installation, plans review, testing, inspection, certification, operation, use, maintenance, alteration, relocation and investigation of accidents involving:

- (1) Elevators, dumbwaiters, escalators, and moving walks;
- (2) Personnel hoists;
- (3) Inclined stairway chair lifts;
- (4) Inclined and vertical wheelchair lifts;
- (5) Manlifts; and
- (6) Special equipment (including wind turbines).

NOTE 1: All references to the term "elevator" in the text below includes the six devices enumerated above, unless otherwise indicated.

NOTE 2: Any references to the term "elevator" do **not** apply to any devices or equipment located in and operated in the following:

- single-family residences;
- conveyors/related equipment within the scope of the American National Standard Safety Standard for Conveyors and Related Equipment (ANSI/ASME B20.1);
- mining equipment specifically covered by the Federal Mine Safety and Health Act or the Mine Safety and Health Act of North Carolina.

Pursuant to NCGS § 95-110.5 of the **Elevator Safety Act**, the Commissioner of Labor is empowered to establish **fees not to exceed two hundred dollars (\$200.00)** for the inspection and issuance of certificates of operation for all elevators and other lifting devices and equipment upon installation or alteration, for each follow-up inspection, and for annual periodic inspections thereafter. Currently, the fees for inspections of applicable devices vary. The last statutory fee increase was in 2001; see Session Law 2001-427, Section 11(d): <https://www.ncleg.gov/EnactedLegislation/SessionLaws/PDF/2001-2002/SL2001-427.pdf>. The last rule-based fee increase was in September of 2007. Since elevators are inspected on a rolling calendar year, the fee increase is proposed to be as soon as practicable; the proposed rule amendment has an October 1, 2020 effective date.

Amusement Device Safety Act

Pursuant to NCGS § 95-111.4 of the **Amusement Device Safety Act**, the Commissioner of Labor is empowered to establish **fees not to exceed two hundred fifty dollars (\$250.00)** for the inspection and issuance of certificates of operation for **amusement devices**. The “term ‘amusement device’ shall mean any mechanical or structural device or attraction that carries or conveys or permits persons to walk along, around or over a fixed or restricted route or course or within a defined area including the entrances and exits thereto, for the purpose of giving such person’s amusement, pleasure, thrills or excitement.” These devices run the scale of devices from a miniature children’s merry-go-round to permanently sited double-launch roller coasters. The last statutory fee increase was in 2001; see Session Law 2001-427, Section 11(d): <https://www.ncleg.gov/EnactedLegislation/SessionLaws/PDF/2001-2002/SL2001-427.pdf>. The last rule-based fee increase was in April of 2007. The proposed effective date of the rule amendment is January 1, 2021 to reflect the annual year.

Note: Multiple agility-related devices, self-propelled thrill-producing items, and playground-type equipment are excluded from the Act pursuant to NCGS § 95-111.3.

Passenger Tramway Safety Act

Pursuant to NCGS § 95-120 of the **Passenger Tramway Safety Act**, the Commissioner of Labor is empowered to establish **fees not to exceed one hundred thirty-seven dollars (\$137.00)** for the inspection and issuance of registration certificates for **passenger tramways**, including chairlifts, conveyors, funiculars, gondolas, J-Bars, T-Bars and rope tows. The initial fee establishment was in 2005, and there have been no statutory fee increases or rule based fee increases since the initial adoption of 13 NCAC 15.0705 in 2006; see Session Law 2005-347, Section 4: <https://www.ncleg.gov/EnactedLegislation/SessionLaws/PDF/2005-2006/SL2005-347.pdf>. The proposed effective date of the rule amendment is January 1, 2021 to reflect the annual year.

III. JUSTIFICATION FOR REQUESTED RULE CHANGES

Technical Correction to National Safety Standards and Current Edition Pricing into 13 NCAC 15.0205 and 13 NCAC 15.0402

EAD incorporates multiple national industry standards by reference into its rules. These standards are published by national organizations including but not limited to ASTM, ANSI, and ASME.

This is general Information about the national industry standards incorporated by reference into the EAD rules, which are being updated in these requested rule amendments.

1. ASTM (American Society for Testing and Materials). ASTM International is a non-profit organization that develops voluntary international consensus standards for materials, products, systems and services. The ASTM standards are applicable to amusement devices, including climbing walls, dry slides, water immersion, and air-supported amusement devices.
2. ANSI (American National Standards Institute). ANSI is a U.S.-based non-profit organization that works to establish and accredits performance and quality standards for products. The ANSI standards are applicable to tramways, ski lifts, tow ropes, and funiculars.

In updating national standard references into rules with current contact information and pricing, all affected parties will be aware of the industry standards to which inspections will be performed and the parties may readily obtain a copy of the standard manuals for their own reference. The national organizations have no specific timelines for new editions of industry standards. Publication of new editions depends on a multitude of factors, including new technology, results of litigation, etc., and those updates provide the most current industry standards for safety. No national organization referenced publishes new editions of their industry standards on an annual basis; new editions are generally published every three to six years.

Fiscal Impact of Incorporating National Standards

13 NCAC 15 .0205 – Tramway Requirements (Appendix A1).

Session Law 2017-211 (*SB 16 – Business Reform Act of 2017*) amended NCGS 95-117 to include the definition of funiculars and gondolas, added new requirements on operation and reporting, and added a new section for civil and criminal penalties for violation of the statute. Pursuant to S.L. 2017-211, EAD is updating the rule to reflect a renamed national safety standard, ANSI B77.1

(Passenger Ropeways – Aerial Tramways, Aerial Lifts, Surface Lifts, Tows and Conveyors), and incorporating by reference the national safety standard for Funiculars, B77.2 (*Funiculars – Safety Requirements*).

ANSI B77.1-2017 -- Passenger Ropeways – Aerial Tramways, Aerial Lifts, Surface Lifts, Tows and Conveyors – Safety Standard is the national safety standard for ski chair lifts, as well as other aerial passenger ropeways and tows. The 2017 edition is the most current edition; ANSI B77.1-2017 is being incorporated by reference into 13 NCAC 15.0205 and replaces the prior edition.

ANSI B77.1-2017 was developed by the National Ski Area Association. It establishes standard guidelines for the design, manufacture, construction, operation, and maintenance of passenger ropeways, including aerial tramways (single and double reversible), aerial lifts (detachable lifts, chair lifts, and similar equipment), surface lifts (T-bars, J-bars, platter lifts, and similar equipment), tows (wire rope and fiber rope tows), and conveyors.

ANSI B77.2 –2014, the American National Standards Safety Requirements for Funiculars, is being incorporated by reference. The 2014 edition is the most recent ANSI standard that establishes the industry safety requirements for funiculars, including the design, manufacture, construction, operation, and maintenance of funiculars for passenger transport.

13 NCAC 15.0402 – Responsibility for Compliance (Appendix A2)

The agency seeks to update the name of ASTM F1159, which was previously incorporated by reference, and incorporate by reference ASTM F770 – 2019, *Standard Practice for Ownership, Operation, Maintenance, and Inspection of Amusement Rides and Devices*, and ASTM F1193 – 2018a, *Standard Practice for Quality, Manufacture, and Construction of Amusement Rides and Devices*.

The ASTM F770 is an international industry standard that provides guidelines for operations, maintenance, and inspection procedures for amusement rides and devices to be performed by the owner/operator; the most recent edition is 2019. The ASTM F1193 is the international industry standard that provides the minimum manufacturing requirements for amusement rides and devices and provides the minimum requirements for a written quality assurance program for an amusement ride or device manufacturer, or component supplier; the most recent edition 2018. There are no known amusement device manufacturers in North Carolina and EAD would not inspect a manufacturer, but ASTM F1193 is being incorporated by reference for the purpose of the EAD inspector's reliance upon the amusement device manufacturers specifications for all rides, including any including major modifications to such rides.

State Government Fiscal Impact of Proposed Rule Change: \$0

Currently, EAD purchases ASME and ANSI industry standards so that all inspectors may have access at a cost of \$ 19,875.00 for three years access to the current edition of the code pro-rated cost of \$6,625.00/year; however, these costs are sunk costs as part of performing safety inspections and will not result in increased budgeted needs.

The State of North Carolina owns one amusement devices, a carousel located at the NC Zoo. However, the carousel is an older amusement device that predates the adoption of ASTM F1193 (2018a). Therefore, there is no need for the State to purchase a current ASTM 1193.

There will be no state or local fiscal impact for FY 2020-2021 pursuant to amendment adding funiculars. No funiculars are owned by the State or by any local government.

Local Government Fiscal Impact of Proposed Rule Change: \$ Minimal

Local government fiscal impact will only be to those towns and cities that own amusement devices and purchase the most current industry standards. If the amusement device owned by the town/city is older and predates any current industry standards, there is no reason to purchase newer standards. As outlined in Table 4, very few amusement devices are owned by local or municipal governments; there are no known new amusement devices owned by local or municipal governments such that the purchase of a new industry standard is required.

Private Fiscal Impact of Proposed Rule Change: \$ Unknown

It is probable that many private business editions of industry standards are out of date; the current cost of ANSI B77.1 is \$200.00 per copy and ANSI B77.2 is \$75.00 per copy. To fully understand the requirement for safety, it should be common practice to familiarize one's business with the latest national standard; however, not all businesses will need to purchase the most current edition. Without providing a survey to affected businesses detailing their subscription/edition version of the standards, it would be impossible to determine how many businesses may need to purchase a more current version. Please note this rule does not require the business to purchase a new standard, just that the new devices will be inspected to the most current standard. Existing tramways and funiculars are not required comply with a new edition of an ASNI standard unless a device has been modified to alter the current design that results in a change that increases the design speed, the rated capacity of the device, the weight or carrier size, the path of the guideway, the type of brakes, the structural arrangements, the energy source/type of power, the evacuation power unit, or a change of the control system logic. Modified devices shall be inspected and/or tested to assure compliance with the modified design. There are no known tramways or funiculars being built within the State of North Carolina.

Addition of Amusement Devices to Fee Schedules and Simplification of Devices for Passenger Tramway Fee Schedules

The public is always seeking new forms of entertainment, and as technologies and manufacturing efficiencies advance, there are providers that will create devices or variations of existing devices to indulge the thrill-seeking public. It is important for NCDOL EAD inspectors to be aware of new devices that can pose a safety risk to the public and ensure that these devices are operating in the safest possible manner.

Pursuant to the Amusement Device Safety Act of North Carolina, Article 14B of Chapter 95, 13 NCAC 15.0703 is to be amended to incorporate new devices (simulators that have mechanical components that can cause injury), separate waterslides from major rides (as the requested rule change creates separate fee schedules), and specifically include small fixed track trains (e.g. the C. P. Huntington miniature train located in Pullen Park in Raleigh), which have always been inspected, but were not noted in the rules.

A technical correction is also needed to clarify fee schedules are only for portable rock walls; fixed, permanent-location rock walls are exempted from inspections in NCGS § 95-111.3(a)(12). Additionally, the notation for “other than mobile or portable roller coasters” is excised, as all roller coasters are inspected by EAD, including fixed location and mobile or portable roller coasters.

The proposed change to 13 NCAC 15.0705 fee schedule is to simplify the rule. Currently, NCGS § 95-117(6) lists all passenger tramway devices within the definition, so there is no need to duplicate the language from the statute. This change will eliminate any confusion for various adaptations for tramway transportation, as all known devices that exist in North Carolina are now included in the statutory passenger tramway definition. NCDOL inspects very few devices under this rule and inspections are mostly limited to ski resorts and large state fair locations (e.g. Mountain State Fair gondola and NC State Fair chairlift). One funicular is in the State of North Carolina. That funicular is on Mount Pisgah and is owned by the Sinclair Broadcasting Group; it is used to access communication towers located on Mount Pisgah.

Fiscal Impact of Corrections to Device Listing on Fee Schedules

NCDOL inspectors are already inspecting the devices that are listed in accordance with the authority granted in the Amusement Device Safety Act of North Carolina, Article 14B of Chapter 95, and the Passenger Tramway Safety Act, Article 15 of Chapter 95, so there is no fiscal impact in adding specific devices that may not be commonly known to be included in the requirements of the Act.

State Government Fiscal Impact for Corrections to Device Listings: \$0

Local Government Fiscal Impact for Corrections to Device Listings: \$0

Private Fiscal Impact for Corrections to Device Listings: \$0

Adjustment of Fees for Select Elevator, Amusement and Tramway Devices

EAD is a one hundred percent (100%) receipt-funded bureau within NCDOL. Operational costs have increased steadily in recent years as the number of required inspections and fuel expenses have grown. As the EAD Bureau is supported solely by receipts, it is important to operate efficiently and effectively while still fulfilling the mission of protecting public safety. Since all receipts for EAD operations are generated from inspection fees, it is imperative that each inspector is operating efficiently and that vacancies can be filled quickly with qualified applicants. Unfortunately, EAD has been plagued with issues of both staff retention and finding qualified candidates. This has resulted in long-term vacancies even after multiple public postings. The difficulty in retaining staff is due to the technical requirements placed on positions and market valuations of those technical skills, which places inflationary pressure on NCDOL to recruit staff. These specific contributing factors are detailed below:

Technical Nature of Elevator and Amusement Inspectors

EAD inspectors must obtain very technical knowledge on a wide array of devices. The same inspectors regularly perform both elevator and amusement device inspection. For a few inspectors, they not only have to master elevator and amusement device inspections, but also must be able to master the safety requirements for tramways and wind turbines. In short, this requires concrete understanding of mechanical device engineering and safe operation techniques which requires intensive training. During the training process, newly employed inspectors cannot inspect any devices alone; they ride along with certified inspectors on their inspections until they are qualified to work independently.

All inspectors are required to have a high school diploma and a minimum of five (5) years of experience in the construction, inspection, or erection or servicing of elevators and related equipment prior to being hired by NCDOL. Currently, EAD inspectors have an average of 5.6 years of experience prior to being hired. EAD supervisors have an average of 22 years of experience with the NCDOL. However, having a minimum 5 years of experience prior to joining NCDOL's EAD Bureau only results in a conditional employment offer. In order to become a permanent employee, the candidate must pass the required certification tests.

The NCDOL requires all inspectors to become a certified Qualified Elevator Inspector ("QEI"). Qualified Elevator Inspector is a designation of the National Association of Elevator Safety Authorities (NAESA). NAESA has been accredited by ANSI to certify Elevator Inspectors since September 2013. NAESA's QEI certification is for those who have gone through a "rigorous background check and examination process to prove their qualifications and must maintain these qualifications based on the ASME QEI-1 Standard for Qualified Elevator Inspectors as well as NAESA's terms ensure inspectors have the skills, knowledge and education to safeguard the public by confirming elevators, escalators, and other conveyances are code compliant and operating safely." QEI certification is a lengthy process that takes from three to twelve months to receive the training and to sit for the QEI certification examination; the length of time depends on the applicant's prior training and experience. No inspector-in-training performs any inspections without also having a current QEI-certified inspector with him/her during the training period. All supervisors and the bureau chief are QEI-certified. Currently, NCDOL has 33 QEI-certified EAD inspectors of a total 40 inspectors.

While elevators are the primary job function for inspectors, it is not the only technical training they undergo to complete their required inspections. In addition to the elevator qualifications, inspectors must be versed in the technical specifications for mechanical and electrical operations, metallurgical stresses, and computerized safety devices to inspect a myriad of amusement and personal transportation devices (i.e. elevators, escalators, passenger tramways, wind turbines, and a myriad of amusement devices). Due to the evolving nature of these devices, frequent refresher courses and new training is necessary to ensure that staff are up to date with current technologies and accident histories of each device that operates in North Carolina.

Market Valuation of EAD Inspector Technical Skillset

North Carolina and the mid-Atlantic area have benefitted greatly from the economic recovery that has occurred since the 2007-2008 recession. This has resulted in both a commercial real estate and residential building expansion within the state. New high-rise complexes are equipped with elevators that require inspections prior to receiving their Certificate of Operation, and prior to the new buildings receiving a Certificate of Occupancy. These market forces have created heightened demand for qualified elevator installers and foremen to meet the increased state need for elevators. Many of the increased elevator installations in North

Carolina have occurred in the major metropolitan areas of Charlotte and Raleigh, where cost of living and salaries are already higher than the statewide average.

Apart from the private sector market valuation for installers and foremen, NCDOL tried to make as direct a comparison as possible by looking solely at inspector positions regionally. This comparison shows that a vast majority of our EAD inspectors remain well below the median market pay (Table 1). The agency has reviewed multiple sources to ascertain salary comparators for the EAD inspector (Appendix B). It is important to note that there is no exact equivalent job in private industry because the NCDOL inspectors not only inspect elevators like an elevator technician, but also inspects ski lifts, wind turbines, and a very wide variety of amusement devices.

Table 1: Market Pay Comparison for Supervisors and Inspectors

<i>POSITION</i>	<i>NCDOL - EAD</i>	<i>IUEC *</i>	<i>Salary.Com</i>	<i>S. Carolina #</i>
<i>Supervisor</i>	<i>\$78,790 (avg salary of 5 current supervisors)</i>	<i>\$98,051</i>	<i>\$82,030</i>	<i>unknown</i>
<i>Inspector</i>	<i>\$56,219 (starting)</i>	<i>\$69, 721*</i>	<i>\$71,501</i>	<i>\$65,000 - \$70,000 #</i>

* with 1 year less experience than is required for EAD entry-level Inspectors

with 2 years' less experience than is required for EAD entry-level inspectors

The NCDOL has the 45 total EAD inspector/supervisor positions. The classifications are as follows:

- Forty (40) EAD inspectors; Grade GN12; Range - \$46,203 to \$78,218/year; Starting Salary \$56,219 based on the OSHR salary quartiles for SFY2019-2020
- Five (5) EAD Supervisors; Grade GN 13; Range - \$48,051 to \$86,431/year;

The starting salary for a supervisor is a 10% increase to their inspector salary, if the salary is within the GN 13 range.

Current Impact of Device Growth, Staff Turnover, Position Vacancies and Staff Productivity

Device Growth

Several years of growth in the state, as noted above, has significantly increased the number of new elevators that must be inspected and thus also added to the list of elevators to be annually inspected. From 2014-2015 to 2018-2019, the three-year trailing average of new elevators has increased 18%. The EAD inspectors have been unable to maintain prior levels of annual routine elevator inspections within thirty days of the annual inspection date due to the increased numbers, along with other reasons as noted. As shown by **Table 2** below, the new inspection numbers have been increasing and the inspectors are unable to meet the demands of annual inspections, along with other required device inspections, largely due to insufficient staffing (See **Table 2** Below).

New elevators often require multiple new construction /compliance inspections. Examples of a multi-inspection on a single elevator include (1) where an elevator is installed and inspected, but does not pass the inspection, thereby creating a need for one or more follow-up inspections; and (2) where a construction lift requires re-inspection each time a floor (or multiple floors) is added to the building being constructed. Further, the new elevator/lift installations require an additional final inspection immediately prior to the issuance of the building’s certificate of occupancy. All these are required inspections on permanent elevators; multiple inspections require return trips and these inspections result in the same fees as it were a routine annual reinspection of an existing device. Normally a new elevator may take four (4) or more visits before issuing the certificate of operation, depending on the type of elevator, for either a single fee of \$175 or \$200. Temporary Lifts for Construction require re-inspections as the building increases in size; however, each inspection on a temporary lift yields a new inspection fee.

Table 2: New Elevator Inspections Relation to Delay in Routine Elevator Inspections

FISCAL YEAR (from NCDOL Annual Report)	Routine Elevator Inspections Within 30 Days of Due Date	New Inspections	Trailing 3-year Average # of New Inspections
2018-2019	21,811	1,344	1,203
2017-2018	23,114	1,161	1,111
2016-2017	23,222	1,104	1,062
2015-2016	24,877	1,169	1,094
2014-2015	24,557	915	987
2013-2014	24,166	1,199	-----
2012-2013	23,784	847	-----

North Carolina’s building boom is in part due to a growing North Carolina population, so it is not surprising to see that NC also has seen an increase in the number of amusement devices that require inspection. EAD inspectors inspected 7,285 amusement devices across the state in 2018-2019 (Table 3). These devices include both permanent and temporary locations; inflatable devices set up at carnivals or rented out to individuals for personal use; temporary rock walls; water slides over 15-feet; and Go-Kart tracks/cars.

Amusement devices are of varying complexity and number of devices at any one location vary greatly. Temporary carnival locations include every town carnival, church fund-raiser, and parking lot carnival that may set up in the state. In addition, there are twenty-five (25) agricultural fairs, including the North Carolina State Fair, at which rides are temporarily erected for seven to ten- day runs. There are also ten annual (10) municipal fairs at which rides are temporarily erected for two to four-day runs. Amusement device inspections are very time sensitive in nature. Once a location notice (*a request to inspect an amusement device*) is submitted to EAD, the EAD inspectors are quickly available to inspect the devices at the venue to ensure that the entertainment event can occur in a timely manner and the attending public’s safety on the venue’s devices is assured.

Table 3: Amusement Device Growth

FISCAL YEAR (from NCDOL Annual Report)	Amusement Devices Inspected
2018-2019	7,285
2017-2018	7,417
2016-2017	5,344
2015-2016	6,831
2014-2015	6,246

Staff Turnover/Position Vacancies

The Elevator and Amusement Bureau has unfortunately experienced a high level of turnover due to both the retirement of seasoned inspector and inspectors leaving for more lucrative options in the private sector. Exit interviews have indicated that all inspectors who left the agency have left for higher paying private sector employment, so staff remuneration has been the primary retention obstacle. Currently of the forty (40) EAD inspector positions, ten (10) of those are vacant. This means that 25% of the assigned work normally assigned to those ten positions must be performed by existing inspectors. This increases travel time/costs and overtime compensation cost to cover the vacant positions. EAD anticipates losing more staff to retirement in both 2020 and the next calendar year as many inspectors will achieve 30-year service milestones.

Losing experienced, certified EAD inspectors is often just the start of the staffing issue. Filling positions posted at low starting salaries (comparative to starting salaries in private sector) often yields few applicants and sometimes no applicants. After screening any applicants for minimum position requirements, position postings in various part of the state often yield zero (0) qualifying candidates and the positions are often posted several times in order to yield one or two minimally qualified candidates. Newly hired inspectors have a steeper learning curve and lower productivity while they are in training and taking the required QEI certification examinations. Retaining these new inspectors is also difficult. As previously noted, new inspectors are required to go through an intensive training regimen and once they obtain their QEI certification, they become even more desirable to private sector recruiters who can offer higher salaries.

Productivity

Management of routine annual inspections and all other required inspections for elevators, passenger tramways, ski lifts, amusement devices, inflatable devices, and wind turbines has been challenging to the EAD inspectors in relation to efficiency. EAD management must realign staffing assigned to devices and routes to ensure that devices are efficiently inspected in a timely manner.

The current goal of each elevator inspector is to perform at least six (6) routine annual elevator reinspections per day. However, there are multiple other requirements that will prevent an inspector from performing the six minimum routine elevator reinspections. Such requirements include accident investigations, amusement device location notice inspections in the spring/summer/fall, fair season, pre-ski season, new construction inspections, “operations inspections” (amusement ride inspections for locations with 15 or more rides, which occur post-safety inspection and after typical working hours), internal training, external first responder elevator rescue training, past-due fee collection, workers compensation absences, vacancies, etc.).

EAD management has defined five (5) geographic based inspection districts across the state and the inspectors live within the assigned districts. This was done to optimize staff productivity/efficiency by limiting travel time between device inspection locations. When staffing vacancies occur, inspectors are re-directed out of from their assigned home district to other districts in which annual elevator inspections are not current. This increases costs to the agency for both travel, overnight stay, and reduction of efficiency within the inspector’s assigned district. This results in reduced inspection time per week for the standard 40-hour workweek, which now includes extensive travel to districts that have a substantial backlog. This has also led to morale issues.

The EAD inspectors inspect each of the 28,514 elevators and lifts in all privately-owned commercial and residential buildings, local government buildings, and State government buildings. As noted above, the inspectors are required to inspect the elevators

annually, but due to an insufficient number of inspectors, EAD has been unable to maintain the annual inspections within a one-year span. There was a significant drop in 2018-2019 when NCDOL has had the greatest vacancy issues. The “annual” inspections are now occurring anywhere from fifteen to eighteen months from the last “annual” inspection. As of 06/09/2020, there was an inspection backlog of 2,627 elevator/lift devices.

Alternative Considered

The agency is looking into the possibility of expanding work with the NC Community College System to recruit new graduates from electrical or elevator-related programs. However, new graduates of such programs would not have the requisite minimum experience, go through an additional elevator/amusement apprenticeship program. EAD has an existing amusement device apprenticeship program through the NC Department of Community Colleges’ Apprenticeship NC. However, this program has not been able to provide enough potential candidates to replace those that are leaving for private sector employment.

IV. Expected Outcomes and Impacts of Proposed Fee Increase

NCDOL has identified salary increases as the agency’s best option to combat departures and create an incentive in recruitment for to qualified candidates. The Commissioner of Labor seeks to raise certain fees associated with inspections of elevators, amusement rides, and passenger tramways in order to raise the revenue required to fund a salary increase needed to improve recruitment and retention. Ongoing concerns with recruitment include multiple reposting, insufficient length of employment experience, lack of training (especially for amusement devices), the learning curve required for computer-based system used by the agency, and cost of QEI for certification of inspectors.

The market data reviewed by EAD, the NCDOL Human Resources Division, and the NCDOL Legal Affairs Division was focused on retention of current EAD inspectors and recruitment of new inspectors. Due to ongoing losses of experienced employees to the private sector, the agency deemed the appropriate step was to increase salaries. Market data showed that EAD inspectors make consistently less than their equivalents in the private sector. Increasing salaries is the first step and the most important step in reducing turnover. In turn, the agency hopes that a decrease in loss of experienced inspectors will lead to an increase in efficiency and consistent coverage across the state. The aim is to maintain inspectors so that there will be consistent productivity versus a

constant battle of plugging holes when inspectors leave the agency for the private sector, and the agency being unable to fill positions.

Proposed Salary and Operational Budget Increase and Expected Outcomes

The Commissioner is proposing to raise revenues through fees because the agency is unable to offer any optional funding to EAD that would not hurt the agency's core mission or that would not result in elimination of currently filled positions

Beneficiaries of the increase include EAD such that it will be fully staffed, correlating with a decrease in travel expenses because inspectors will not have to travel further from their home district to perform inspections. Upon being fully staffed, the primary beneficiaries will be the general public, because the elevators will again be inspected within one year, and the EAD client base, because inspectors will be able to more promptly perform inspections within their own districts. Ensuring timely safety inspections for all inspected devices also benefits the public who use such devices that are subject to NCDOL EAD inspections. Certifying elevators and amusement devices assures the riding public of the safety of the device, and the citation of deficient devices prevents the risk of injury and/or fatalities that may result from an improperly functioning device.

EAD Increase Operational Cost Estimate: Recruitment and Retention

- The primary purpose of increasing fees is to increase employee salaries. The intended salary increase will be as follows:
- 9% increase for new and vacant inspectors (historically the most difficult locations to fill)
- 6% increase for experienced inspectors (mid-level inspectors)
- 4% increase for senior inspectors, supervisors, and one reviewer (administrative staff)
- 5% increase for acting bureau chief (the EAD Bureau Chief retired April 30, 2020.)

Position adjustment recommendations were based on the urgent need to fill vacant inspector positions and to also retain more experienced inspectors by making salaries at least slightly more competitive with private industry and other regional government inspector positions (Please See **Table 1** or Appendix C for comparative salary information). The fee increase proposal would fund starting salaries at \$56,219 (which is the starting point for the 2nd quartile, but well below midpoint for GN12 graded positions). Positions that have been hired in the last 12 months would also be subject to the 9% increase bringing their salaries to the new proposed minimum, however based on time of the approval may be eligible for any state legislative increases to salary.

Experienced inspectors with 5-10 years of experience with NCDOL would be given a 6% increase and others senior positions would be receiving a 4% increase. These market-based raises will incentivize staff to stay with EAD and reduce the level of resignations/retirements that have caused the current 25% inspector vacancy rate. More substantial raises bringing EAD inspector positions closer to market-based salaries were not considered as current legislative limitations on inspection fees (See: II. Statutory Authority for Inspections and Fee Establishment on page 5 of this fiscal note).

Personnel and fringe are the largest segment of expense related to EAD operations. The aforementioned percentage increases would on an annualized basis would roughly equate to \$112,722 in year one. This cost projection is largely dependent upon current employees still being employed with NCDOL at time of fee increase and is predicated on a 2.5% legislative salary increase currently budgeted for SFY 2020-2021.

Increase in Other Operational Costs

Increasing current salary structure to incentivize and recruit additional staff will hopefully be enough to fill current long-term vacancies and be able to retain current inspectors and staff. All elevator/amusement inspectors are home-based telework employees, who are generally assigned a NC Motor Fleet vehicle. There are additional ongoing operational costs associated with travel, connectivity, supply, and individual technology needs (i.e., computers, licensing, etc.) Additionally, the central database and invoicing subsystem software needs a substantial upgrade/conversion, which would also include annual maintenance costs that would be paid by new elevator/amusement fees as there are no current resources for this upgrade. Estimated other operation costs would be around \$200,000 per annum, subject to pricing and project implementation timing of any future projects.

Traditionally, the EAD Bureau has received carryforward of receipts roughly equal to one month's operational costs. Maintaining this operational reserve is important to be able to sufficiently fund EAD operations in case of any disruptions, and traditionally has been used to ensure payroll and other expenses during seasonal downturns in receipt collection. Such seasonal downturns in receipt collections occur when elevator staff are redirected for the purpose of amusement inspections in summer and early fall periods as the fair season/festival season amusement inspections are more time intensive and involve travel outside of inspectors' base areas, which again involve higher mileage and overnight lodging. This fee increase would restore a one-month operational carryforward of approximately \$ 400,000 - \$470,000.

The Commissioner has strived to keep inspection fees as low as possible for North Carolina businesses; the last fee increase for EAD was thirteen (13) years ago. The current fee increase should be sufficient to meet the operational needs for the next five years under normal economic and inflationary conditions.

Fiscal Impact of Proposed Fee Increase

The proposed fee increases will generally be modest with increases being between \$10 and \$60 for most common devices. Increases beyond that amount are for a few devices and serve to correct historical fee discrepancies with similar devices. For example, ski resort rope tows for skiers and snow tubers will now have the same fee historically charged for J and T Bars that transport skiers and snow tubers. Additionally, portable roller coaster devices will be charged the same fee that has been charged for permanent roller coaster devices because portable devices require the same degree of work to inspect the portable devices.

These relatively small fee increases collectively will provide a projected \$702,642 in revenue for NC Department of Labor. **(Table 4 below).**

Table 4: Fiscal Impact of Proposed Elevator and Amusement Fee Increase Based on SFY18-19 Device Inspections

Devices Inspected SFY18-19	Fee Category	Current Fee Rate	Proposed Fee Rate	\$ Increase Per Device	Potential Impact of Increase	Device Ownership			Fiscal Impact of Fee Increase		
						State	Local	Private	State	Local	Private
28	Gondolas, Chairlifts, Inclined Railroads	\$ 137.00	\$ 137.00	\$ -	\$ -			28	\$ -	\$ -	\$ -
25	J or T Bars and Conveyors	\$ 62.00	\$ 137.00	\$ 75.00	\$ 1,875			25	\$ -	\$ -	\$ 1,875
7	Rope Tows/Handle Pulls	\$ 31.00	\$ 137.00	\$ 106.00	\$ 742			7	\$ -	\$ -	\$ 742
1,459	Amusement (adult) Major Ride Inspection	\$ 90.00	\$ 100.00	\$ 10.00	\$ 14,590	1	8	1,450	\$ 10	\$ 80	\$ 14,500
2,013	Kiddie Rides Inspection	\$ 45.00	\$ 100.00	\$ 55.00	\$ 110,715		5	2,008	\$ -	\$ 275	\$ 110,440
1,072	Go Karts (per cart) Inspection	\$ 35.00	\$ 50.00	\$ 15.00	\$ 16,080			1,072	\$ -	\$ -	\$ 16,080
2,738	Inflatables Inspection	\$ 100.00	\$ 100.00	\$ -	\$ -		11	2,727	\$ -	\$ -	\$ -
44	Amusement Rock Wall Inspection	\$ 100.00	\$ 100.00	\$ -	\$ -			44	\$ -	\$ -	\$ -
7	Roller Coasters, permanent	\$ 250.00	\$ 250.00	\$ -	\$ -			7	\$ -	\$ -	\$ -
4	Roller Coasters, portable	\$ 90.00	\$ 250.00	\$ 160.00	\$ 640			4	\$ -	\$ -	\$ 640
4	Simulators	\$ 90.00	\$ 100.00	\$ 10.00	\$ 40			4	\$ -	\$ -	\$ 40
119	Bungee Trampolines	\$ 90.00	\$ 100.00	\$ 10.00	\$ 1,190			119	\$ -	\$ -	\$ 1,190
160	Water Slides	\$ 90.00	\$ 150.00	\$ 60.00	\$ 9,600		14	146	\$ -	\$ 840	\$ 8,760
14	Trains	\$ 90.00	\$ 100.00	\$ 10.00	\$ 140		14	-	\$ -	\$ 140	\$ -
7,392	New Hydraulic, Traction, Escalators, Special Lifting Devices, Dumbwaiter, Handicapped Lifts	\$ 200.00	\$ 200.00	\$ -	\$ -	22		7,370	\$ -	\$ -	\$ -
18,188	Hydraulic Elevators, Escalators, Special Lifting Devices	\$ 175.00	\$ 200.00	\$ 25.00	\$ 454,700	760	381	17,047	\$ 19,000	\$ 9,525	\$ 426,175
2,638	Dumbwaiters and Handicapped Lifts	\$ 65.00	\$ 100.00	\$ 35.00	\$ 92,330	195		2,443	\$ 6,825	\$ -	\$ 85,505
Totals					\$ 702,642	978	433	34,501	\$ 25,835	\$ 10,860	\$ 665,947

As detailed in **Table 4**, the impact is largely depending the type and number of inspected devices, with nearly 78% of the funding increase coming from Elevators and other lifts. The second largest potential increase in revenue would be the Kiddie Rides, which would have a fee equal to other common amusement inspections (i.e. inflatables, adult rides). The table reflects the Maximum Fiscal Impact (MFI) for each device type and by each affected party (State Government, Local Government, Private Business). MFI is calculated by using the last completed state fiscal period completed ending June 2019 and is the product of simply multiplying the number of inspected devices by the amount of the proposed fee increase.

Maximum Fiscal Impact (MFI) was the method utilized as it is not known how current economic conditions will impact future collections. State FY2018-2019 information was used for amusement devices as the device inspection counts will accurately reflect a normal year of operations. Amusement device inspections are ordered and paid prior to the inspection. Unfortunately, due to COVID-19, amusement inspections currently in State FY2019-2020 are substantially less as businesses have delayed normal annual inspections. Additionally, while a large percentage of inspection invoices are paid for elevators (99%), some are not paid in a timely fashion and are collected in subsequent fiscal periods. There has also been an increasing number of bankruptcies that have affected collections for elevator inspections. As was previously noted and referenced on [Table 2](#) and [Table 3](#), North Carolina has had substantial growth in the number of elevator and amusement devices over the past 5 years, therefore, the MFI calculation is for a normalized year of operation and does not project future device growth trends.

- The proposed fee increases will impact the North Carolina State Government, local and municipal governments, as well as private business. The increase in elevator fees will affect any individual or entity that owns a commercial elevator (**excluding traction elevators as there is no requested fee increase**), escalator, dumbwaiter, lift, or special equipment. Elevators are owned by the private sector, state government, local governments and municipalities. Please note that elevator ownership was not discernable by elevator type (*i.e., Traction vs. Hydraulic*) for affected parties. Due to the inability to ascertain the type of elevator owned, if the elevator type was not known, the owner was placed in the most common category (hydraulic), which could slightly overstate the fiscal impact because traction elevator fees are not proposed to increase. The Department of Labor's current database is not set up to delineate between the types of owners (e.g. state government versus private entity) but will ultimately improve in this area of data reporting once a more sophisticated database system is implemented for inspections and invoicing.

State Government Impact Estimate: \$25,835 (recurring); \$11,944-\$22,911 (non-recurring)

The primary impact for State Government would be for elevator and escalator inspections. The increase would be on a **rolling annual reinspection** basis beginning with the October 1, 2020 inspection fee for all elevators, escalators, dumbwaiters, and special equipment. Currently, the State of North Carolina, to include state agencies, state hospitals, universities, community colleges, museums, crime labs, and prisons, owns buildings in which elevators are located.

State Government impact related to amusement and tramway devices would be minimal as state only owns one carousel, which is located at the North Carolina Zoo.

NCDOL will also have some additional administrative costs related to the updating of fees and notice to affected device owners. Those one-time costs are as follows:

Updating Elevator and Amusement Fee Tables: The current elevator and amusement inspection subsystem is customized for North Carolina's Elevator and Amusement devices, and it was developed by in-house IT employees prior to the creation of commercially available software. The system is now aging, with the original developers of the subsystem retired, and it will take a great amount of time to update and test. Currently, the estimate is that the update to both subsystems would require 220 hours for staff to program and test. The same programmer/tester will be used for the updates to both subsystems, with the amusement system being more time intensive needing 160 hours versus 60 hours for the elevator subsystem. The programmer's annual salary currently is \$74,820 and the 220 hours are 10.57% of their annual work hours. This equates to \$7,908 in salary and an additional \$3,003 for fringe (FICA, Retirement, and Health) for a total of \$10,911 in costs to update the subsystem fee updates.

Notice of Fee Increases to Device Owners: In addition to the public rulemaking process, which will include a public hearing, upon approval of the rule by the Rules Review Commission, adequate notice would have to be provided to the affected private and local government device owners. While the rule revision, public hearing, comment period and notice of rule changes are part of the public record, we anticipate that not all affected parties will readily be informed, and additional avenues of notification are warranted. Minimally, NCDOL will update our public facing website to provide notice to affected parties and fee effective dates. The cost for the development of document and posting of web notice will be approximately \$830 in staff salary and another \$203 in fringe benefits (FICA, Retirement). In the elevator and amusement system, there are just over 20,000 unique addresses for device owners. While that number will need to be refined due ownership transfer of devices, retirement of devices, and addition of new devices, it is not expected to change dramatically. Based on this number of unique addresses, the cost for mailing a one-page letter will be in excess of \$12,000 with approximately \$10,000 in postage and \$2,000 in materials/printing (envelopes, one-page color notice). Staff time for assembling the mailing has not yet been calculated but should not be substantial since NCDOL has some envelope stuffing equipment at the agency's disposal as fee invoices are regularly mailed.

Local Government/Municipal Impact Estimate: \$10,860

The primary impact for local and municipal governments is related to elevators as well. As noted with State Government impact, the data currently does not classify the elevators as hydraulic or traction, so all 381 devices were counted as hydraulic to determine MFI. NCDOL is unable to discern the number of lifts (if any) owned by local governments.

Local/Municipal governments do have a modest number of amusement devices; however, the amusement device impact is estimated to be less than \$400.

Private Fiscal Impact Estimate: \$665,947

Private business and sole proprietorships will have the largest fiscal impact as they own 95% of the devices which are subject to fee increases. The largest impacted area is elevator and escalator inspections which account for \$426,175 of the total impact based on a \$25.00 fee increase per device. Kiddie rides make up the bulk of the amusement fee increase (\$110,440) as the fee proposal is to make the fee equal to that of other amusement rides. There will be a minor impact in the increase for Rope Tows, J and T Bar lifts which will be borne largely by the ski resorts and snow tubing establishments.

Appendix A1: PROPOSED TEXT FOR TRAMWAY REQUIREMENTS

13 NCAC 15 .0205 TRAMWAY REQUIREMENTS

(a) The rules of this Chapter shall control when any conflict between these Rules and the American National Standards Institute (ANSI) safety requirements exists.

(b) ~~(a)~~ The construction, ~~operation~~ operation, and maintenance of all passenger tramways shall conform to the ~~rules in this Section~~ ANSI B77.1, Passenger Ropeways - Aerial Tramways, Aerial Lifts, Surface Lifts, Tows and Conveyors – Safety Standard, ~~–Safety Standard American National Standards Safety Requirements for Aerial Passenger Tramways~~, which is hereby incorporated by reference. This incorporation includes subsequent amendments and editions of this Code.

~~(b) The rules of this chapter shall control when any conflict between these rules and the B77.1 American National Standards Safety Requirements for Aerial Passenger Tramways exists.~~

~~(c) Copies of the B77.1 American National Standards Safety Requirements for Aerial Passenger Tramways are available for inspection at the offices of the Division and may be obtained from the American National Standards Institute (ANSI), via U.S. Mail at 11 West 42nd Street, New York, New York 10036, via telephone at (212) 642-4980, or via the internet at www.ansi.org. The cost is ninety four dollars (\$94.00) per copy.~~

(c) The construction, operation, and maintenance of all funiculars shall conform to the rules in this Section and the ANSI B77.2 – Funiculars - Safety Requirements, which is hereby incorporated by reference. This incorporation includes subsequent amendments and editions of this Code.

(d) Copies of all ANSI standards incorporated by reference in this Rule may be obtained from the American National Standards Institute via U.S. Mail at 25 West 43rd Street, 4th Floor, New York, New York 10036, via telephone at (212) 642-4900, or via the internet at www.ansi.org. The cost of each publication is:

(1) ANSI B77.1 is ninety-four dollars (\$200.00).

(2) ANSI B77.2 is seventy-five dollars (\$75.00).

History Note: Authority G.S. 95-120;

Eff. August 1, 1987;

Amended Eff. December 1, 2004; May 1, 1992;

Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. January 5, ~~2016~~-2016;

Amended Eff. October 1, 2020.

Appendix A2: PROPOSED TEXT FOR RESPONSIBILITY FOR COMPLIANCE

13 NCAC 15 .0402 RESPONSIBILITY FOR COMPLIANCE

- (a) Every owner or operator of an amusement device shall comply with all provisions of the rules of this Section, and every employer and employee shall comply with all provisions which concern or affect his/her conduct.
- (b) Designers and manufacturers of amusement devices shall follow the procedures of the ASTM F1159 – ~~Standard Practice for Design and Manufacture of Patron Directed, Artificial Climbing Walls, Dry Slide, Coin Operated and Purposeful Water Immersion Amusement Rides and Devices and Air Supported Structures~~ Standard Practice for Design of Amusement Rides and Devices that are Outside the Purview of Other F24 Design Standards, which is hereby incorporated by reference. This incorporation includes subsequent amendments and editions of this Code.
- (c) ~~Copies of the ASTM F1159 – Standard Practice for Design and Manufacture of Patron Directed, Artificial Climbing Walls, Dry Slide, Coin Operated and Purposeful Water Immersion Amusement Rides and Devices and Air Supported Structures may be obtained from the American Society of Testing and Materials (ASTM), via U.S. Mail at 100 Barr Harbor Drive West, Conshohocken, Pennsylvania 19428 2959, via telephone at (610) 832 9585, or via the internet at www.astm.org. The cost is twenty-seven dollars (\$27.00) per copy.~~
- (c) Designers and manufacturers of amusement devices shall follow the procedures of the ASTM F1193 – Standard Practice for Quality, Manufacture, and Construction of Amusement Rides and Devices, which is hereby incorporated by reference. This incorporation includes subsequent amendments and editions of this Code.
- (d) Owners of amusement devices shall follow the procedures of ASTM F770 – Standard Practice for Ownership, Operation, Maintenance, and Inspection of Amusement Rides and Devices, which is hereby incorporated by reference. This incorporation includes all subsequent amendments and editions of this Code.
- (e) Copies of all ASTM standards incorporated by reference in this Rule may be obtained from the American Society of Testing and Materials (ASTM), via U.S. Mail at P.O. Box C700, West Conshohocken, Pennsylvania 19428-2959, via telephone at (610) 832-9500, or via the internet at www.astm.org. The cost of each publication is as follows:
- (1) ASTM F1159 is forty-four dollars (\$44.00) per copy;
 - (2) ASTM F1193 is fifty-six dollars (\$56.00) per copy;
 - (3) ASTM F770 is forty-four dollars (\$44.00) per copy.
- (f) An engineering analysis of each ride or device shall be submitted to the North Carolina Department of Labor, Elevator and Amusement Device ~~Division~~ Bureau, before it is operated in North Carolina.

*History Note: Authority G.S. 95-111.4;
Eff. August 1, 1987;
Amended Eff. December 1, 2004; June 1, 1992;
Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. January 5, ~~2016~~ 2016;
Amended Eff. October 1, 2020.*

Appendix B1: PROPOSED TEXT FOR ELEVATOR, DUMBWAITER, AND SPEC EQUIP INSPECTION FEE SCHEDULE

13 NCAC 15 .0702 ELEVATOR, ESCALATOR, DUMBWAITER, AND SPECIAL EQUIPMENT ANNUAL INSPECTION FEES SCHEDULE

Annual inspection fees for elevator, escalator, dumbwaiter, and special equipment shall be as follows:

Equipment	Unit Fee
(a) All dumbwaiters and handicapped lifts	\$65.00 <u>\$100.00</u>
(b) All hydraulic elevators, belt man lifts, escalators, plus all elevators not identified as either hydraulic or traction and special lifting devices	\$175.00 <u>\$200.00</u>
(c) Traction Elevators	
(1) 1-10 Floors	\$200.00
(2) Over 10 Floors	\$200.00

History Note: Authority G.S. 95-107; 95-95-110.5(20);

Temporary Adoption Eff. October 17, 2001;

Eff. July 1, 2003;

Amended Eff. September 1, 2007;

Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. January 5, ~~2016~~. 2016;

Amended Eff. October 1, 2020.

Appendix B2: PROPOSED TEXT FOR AMUSEMENT DEVICE INSPECTION FEE SCHEDULE

13 NCAC 15 .0703 AMUSEMENT DEVICE INSPECTION FEE SCHEDULE

Inspection fees for amusement devices shall be as follows:

Equipment	Unit Fee	Inspection Required
(1) Inflatables	\$100.00	Annually
(2) Rock Walls, <u>portable</u>	\$100.00	Annually
(3) Kiddie Rides (48 inch maximum height restriction)	\$45.00 <u>\$100.00</u>	Every setup, except in permanent parks, which shall be inspected annually
(4) Go Karts	\$35.00 <u>\$50.00</u>	Every setup, except in permanent parks, which shall be inspected annually
<u>(4a) Go Kart Tracks</u>	<u>\$100.00</u>	Every setup, except permanent parks, which shall be inspected annually
(5) Major Rides (any ride not otherwise listed herein) and —Water Slides.	\$90.00 <u>\$100.00</u>	Every setup, except permanent parks, which shall be inspected annually
(6) Roller Coasters, other than mobile or portable roller coasters	\$250.00	Annually
<u>(7) Simulators, portable</u>	<u>\$100.00</u>	<u>Every setup</u>
<u>(8) Simulators, stationary</u>	<u>\$100.00</u>	<u>Annually</u>
<u>(9) Trains, small fixed track</u>	<u>\$100.00</u>	<u>Annually</u>
<u>(10) Waterslides</u>	<u>\$150.00</u>	<u>Annually</u>

History Note: Authority G.S. 95-107; 95-111.4(19);

Temporary Adoption Eff. October 17, 2001;

Eff. July 1, 2003;

Amended Eff. April 1, 2007;

Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. January 5, ~~2016~~ 2016;

Amended Eff. January 1, 2021.

Appendix B3: PROPOSED TEXT FOR PASSENGER TRAMWAY INSPECTION FEE SCHEDULE

13 NCAC 15 .0705 PASSENGER TRAMWAY INSPECTION FEE SCHEDULE

Inspection fees for all passenger tramway devices shall be ~~as follows:~~ \$137.00.

Equipment	Unit Fee
(1) Gondolas, Chairlifts, and Inclined Railroads	\$137
(2) J or T Bars and Conveyors	\$62
(3) Rope Tows	\$31

History Note: Authority G.S. 95-120(9);

Emergency Adoption Eff. September 19, 2005;

Emergency Adoption Expired Eff. January 1, 2006;

Eff. May 1, 2006;

Pursuant to G.S. 150B-21.3A, rule is necessary without substantive public interest Eff. January 5, ~~2016.~~ 2016;

Amended Eff. January 1, 2021.

Appendix C: Salary Information EAD Supervisors and Inspectors used for Table 1

The agency reviewed multiple sources to ascertain salary comparators for the EAD inspector:

State of South Carolina, Department of Labor, Licensing & Regulation

- Investigator IV position posting of 1/30/2020;
- Hiring range \$65,000 to \$70,000 with a minimum of three (3) years' experience;
- Applicants must be pre-QEI certified by NAESA.
- *NOTE: NCDOL has lost three (3) inspectors to the State of South Carolina since mid-to-late 2019.*

Field Boss (www.fieldboss.com)

- Cites a 2018 analysis of federal labor statistics;
- Median income for elevator installers/repairs at \$78,990;
- Top 25% make \$100,720.

Salary.com

- <https://www.salary.com/research/salary/alternate/elevator-technician-salary/charlotte-nc>
- "The average Elevator Technician salary in Charlotte, NC is \$71,501 as of December 26, 2019, but the range typically falls between \$58,501 and \$87,201.
- Salary ranges can vary widely depending on many important factors, including education, certifications, additional skills, the number of years you have spent in your profession."
- This website further notes that an elevator technician "may be required to be certified in an area of specialty with 2-4 years of experience in the field or in a related area." NCDOL requires five (5) years minimum experience.

International Union of Elevator Constructors (IUEC)

- Recent posting in Greensboro, NC, January 2020;
- Mechanic-In-Charge (equivalent of EAD Supervisor positions) earn \$47.14/hour.
- Earns estimated \$98,051
- Salary computation: (47.14 x 40 Hr./week=1,885.60; 1,885.60 x 52 weeks = \$98,051.20 (includes paid vacation) + paid health benefits + 8 paid holidays + pension + annuity + work preservation fund + education fund)

International Union of Elevator Constructors - IUEC

- Member; 4th Year Apprentice [one-year experience less than is required for NCDOL inspectors]
- Earns estimated \$69,722
- Salary computation: \$33.52/hr. ($33.52 \times 40 \text{ Hr./week} = 1,340.80$; $1,340.80 \times 52 \text{ weeks} = \$69,721.60$ (includes paid vacation) + paid health benefits + 8 paid holidays + pension + annuity + work preservation fund + education fund)

(Note: Most elevator companies in Asheville, Charlotte, Greensboro/Triad area and the Raleigh/Triangle area employ members of the IUEC.)