Approved:	3/1/95
	Date

MINUTES OF THE SENATE COMMITTEE ON GOVERNMENTAL ORGANIZATION

The meeting was called to order by Chairperson Al Ramirez at 1:30 p.m. on February 22, 1995 in Room 531-N of the Capitol.

All members were present except:

Committee staff present: Don Cawby, Legislative Research Department

Fred Carman, Revisor of Statutes

Jacqueline Breymeyer, Committee Secretary

Conferees appearing before the committee: J. A. Marchack, President, National Elevator

Inspection Service

Russell G. Schergen, International Union of

Elevator Constructors

John J. McNerney, IUEC #12 Business Manager

Kansas City, MO

Others attending: See attached list

The Chairman called the meeting to order at 1:40 p.m.

SB 163--elevator and escalator safety

J. A. Marchack, President of National Elevator Inspection Service was first to speak as a proponent of the bill. He stated that public safety is the prime consideration of this legislation. He spoke of the technology in the industry that has taken place and the sophistication and increased speeds and size of elevators. Inspections and tests should be performed in a systematic and timely manner.

Some of the problems Mr. Marchack's testimony cited are, no code enforcement, fire fighters service Phase I and II failure to operate properly, and the five year full load safety test hasn't been completed for years. Mr. Marchack stated that Kansas is one of about fourteen states that does not have elevator code requirements.

Mr. Marchack stated the inspection cost would range between \$45 and \$75 per year for a routine inspection, plus the certificate fee. It is estimated that 10 to 15 jobs would be created by this legislation. He ended his presentation by stating that we should not wait until an accident or injury happens; the safety of the riding public should be the goal. (Attachment 1)

Russell G. Schergen, International Union of Elevator Constructors, was the next proponent on the bill. Mr. Schergen said his testimony would enlighten the committee in three areas which are vital in understanding why the legislation is so important. The first had to do with how little is known of the number of passengers who use elevators daily and how that relates to other modes of transportation. The second area is how little that can be found out about what kind of accidents take place and how they are related to elevators and escalators. According to the U.S. Consumer Product Safety Commission, 17,711 people received emergency treatment from elevator and escalator mishaps last year. According to a New York consultant, Hubert Hayes, if there is an 11% margin of error, the figure could be closer to 27,000. The third area of concern is the installing company properly regulating its own equipment. Anytime a new elevator, escalator, residence elevator or moving walkway is installed, there should be someone other than the installation company to insure that equipment is installed and in good working order.

Mr. Schergen's testimony ended by stating that in the past the industry did an excellent job of policing itself. Today it is different because of the pressures faced by manufacturing companies, building owners, and elevator companies. The industry needs some outside agency to police it to insure the general public that the equipment they depend upon daily is safely installed and maintained. (Attachment 2)

CONTINUATION SHEET

MINUTES OF THE SENATE COMMITTEE ON GOVERNMENTAL ORGANIZATION Statehouse, at 1:30 p.m. on February 22, 1995.

John J. McNerney, IUEC Local #12, was the last proponent to speak to the bill. Mr. McNerney spoke of how this legislation will benefit the citizens of Kansas. He explained to the committee just exactly what is performed when an elevator is inspected by a qualified inspector and the frequency with which this inspection should be done.

Mr. McNerney discussed three types of moving equipment used by thousands of Kansans every day: traction elevators, hydraulic elevators, and escalators. Today more elevators and escalators are being installed in buildings, churches and homes. The American Disabilities Act has also affected the sale of many elevators throughout the country.

Mr. McNerney ended his testimony by stating that it is time everything is done to assure the public is using a safe product that they are trusting with their lives. (Attachment 3)

Several questions were asked of the three conferees. Some members questioned the idea of creating legislation that adds more bureaucracy such as an elevator safety board with eleven members.

It was stated that in some states elevator inspectors do not have a board, but work under the direction of the state fire marshal.

The Chairman stated that he had been asked by these gentlemen to introduce the bill. This type of legislation was passed in the state of Missouri last year.

One of the conferees commented that in the past insurance carriers once played a large part in elevator inspection, but it has tapered off dramatically.

One of the members asked for fiscal note information. The estimate was based on information provided by the Department of Commerce and Housing. All expenditures are estimated from fees, although State General Fund support would be necessary until fee receipts could be generated. Expenditures in FY 1997 and on an ongoing basis are estimated at \$430,000, including 9.0 FTE positions - based on discussions with the State Fire Marshal which has somewhat of an analogous function.

The Chairman, asked if there were any other proponents or any opponents of the bill. Seeing none, he closed the hearing on <u>SB 163</u>.

He asked the committee to turn to **SB 54**—the cosmetology bill.

Senator Gooch moved to amend SB 54 with the technical amendments provided by staff. Senator Papay gave a second to the motion. Th\e motion carried.

Senator Papay moved to pass out SB 54 favorably as amended. Senator Gooch gave a second to the motion.

As the voice vote was unclear as to passage, the chairman asked for a show of hands.

The motion carried on a 3-2 show of hands.

The meeting was adjourned.

The next meeting is scheduled for February 23, 1995.

GOVERNMENTAL ORGANIZATION COMMITTEE GUEST LIST

DATE: FEBRUARY 22, 1995

NAME	REPRESENTING		
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My name is J.A. Marchack and I am the President of National Elevator Inspection Service.

Public Safety is the prime consideration for the Kansas State Bill 163.

Everyone rides elevators and escalators, and the public is entitled to have a feeling of confidence that they will arrive at their destinations safely. You may ask, why do we need inspections now? Modern automatic elevators as we know them today came into being in the early 1950's. Prior to that time the elevator industry was in the infant stages, the elevating equipment was very simple and many elevators had operators on them. The control equipment was very simple and could be repaired and maintained easily. Its comparable to driving a 1950 automobile. If you still have automobile and elevators of that vintage you must repair and test, maintain and inspect or even modify the equipment to make sure it is in a safe working order.

The technology in the last ten years, compared to the previous 100 years, we have seen the micro processors change the elevator industry. The sophistication and increase speeds and size also warrant inspections and tests should be performed in a systematic and timely manor.

Our experience over the last 25 years of inspecting and test witnessing, is that when we start inspections where there has been no code enforcement, we find over 60% of the fire fighters service Phase I and II fail to operate properly. Another area we find that the 5 year full load safety test hasn't been completed for many years, it's the most stringent test performed on elevators. The elevator car is loaded with weights equal to the rated capacity load then the safeties are activated to test the elevators stopping ability.

Kansas is one of about 14 states that doesn't have elevator code requirements. Within the last 18 months Texas, Missouri and West Virginia have been setting up elevator inspection programs. It's my understanding that Colorado and Alabama are also trying to adopt code enforcement.

The three modern building codes used in the United States, Uniform, Southern and Boca all refer back to (A17.1) American National Standards for Elevators and Escalators and (A17.2) The Inspectors Manual. The

Senate Louernmental Organization attachment 1 2-22-95 National Electrical Code has a small section that references elevator requirements. The NFPA has a code on sprinkler requirements and also hoistway ventilation requirements. Also, the Life Safety Code for high rise buildings have elevator requirements. The much talked about ADA Federal requirement requires a building to be barrier free access for the handicapped. It can become complicated and sophisticated very fast and where do the building owners and contractors find the answers and requirements without code enforcement.

You now may ask how will this affect your area. The cost for inspection will be approximately \$45-\$75 per year for a routine inspection. Plus the certificate fee which will pay for the clerical work needed by a chief elevator inspector. This bill allows cities to have their own programs as long as it's equal or greater than the State Laws. It allows for a qualified elevator inspector to be hired privately to file the reports with the state so this will keep cost to the state at a minimum. Privatization allows Free Enterprise to take over. It also will provide jobs within Kansas. We estimate 10-15 jobs will be created in and outside of government. The inspections are not meant to be burdensome of business owners. The cost will not be prohibitive. And lets not wait until an accident or injury happens to get our attention - lets go forward and place safety of the riding public as our goal.

Thank you for your time and consideration for Senate Bill 163. Should you have any questions call J.A. Marchack at 1-800-886-6347.

Russell G. Schergen 17 Shaelah Drive St. Charles, Missouri 63304 (314)-928-8757

February 22, 1995

To Whom it may concern:

My name is Russell G. Schergen and I have 32 years in the elevator industry, working in the construction of new elevators, maintaining existing equipment and repairing elevators damaged for a variety of reasons. The last 14 years have been spent working in an administrative position for the International Union of Elevator Constructors. During that span I have been involved in the National Elevator Industry Educational Program developing better methods of training the work force in the Elevator Industry, been a part of a fact finding group sent to Japan and Hong Kong to determine why elevators operate there with fewer problems than in the United States and work daily in the industry representing the members of our union regarding the administrating of our contract with our employers.

I would hope to enlighten the committee in three (3) areas which are vital in understanding why Senate Bill 163 is important to consider.

The first has to do with the little known reality of just how many passengers use elevators daily and how that relates to other modes of transportation. There are 600,000 elevators which make an estimated 55 million trips per day and 30,000 escalators which make an estimated 180 million trips per day or an estimated 85 billion trips per year. These combined trips transport more people in a single day than all the airlines combined carry in a year [1].

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Attachment 2
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Even with those astounding figures there are no governmental regulations like those imposed on other forms of public transportation regarding safety violations and defects.

Unlike other forms of transportation there are no alternatives, other than steps, to using the elevators in high rise buildings and the general public is completely depended upon the property owner to maintain his equipment both regularly and properly. Despite what most may think, in reality, there are many elevators not maintained by qualified elevator companies and in a lot of cases they are maintained solely by building custodians and janitors.

Even when Elevator Companies are used, experts say, the competition can be so intense that many companies bid far below what it would cost them to do the work and either skimp on the work or hope to make the difference in extra orders throughout the contract [2].

The second item that is disturbing is how little that can be found out about what kind of accidents, just how many there are and just how they are related to elevators and escalators. Last year, according to the U.S. Consumer Product Safety Commission 17,711 people received emergency treatment from elevator and escalator mishaps. This, however, is only an extrapolated figure from 91 hospitals across the United States, but was up from 14,457 the previous year. Even these figures have an 11% margin of error and has no statistics of cause, type of equipment involved or the type of injuries. A New York consultant, Hubert Hayes, said he would put the number closer to 27,000. I have included a Statistical Report of Elevator and other Lifts incidents complied by Hubert H. Hayes.

Some would lead you to believe that most accidents are caused by carelessness, however, a 1978 study by several major department store, including J.C. Penny and Macy's, found that only 15% were caused by unsafe acts.

It is my opinion that this rise in accidents can be contributed, at least in part, to several reasons:

Many buildings, to cut operating cost, have hired management companies whose main purpose is to cut the overall operating budget. This is done by putting pressure on elevator companies to continually lower the contact cost, spend less time with the units out of service, thus, creating a situation where the elevator company is trying to do more maintenance in less time for a lower amount.

Another contributing factor, I believe, is because through the years the elevator industry has been very lucrative. Because of this financial motivation more new companies are started every day and there are little or no regulation to insure the qualifications of the individuals performing the work.

Lastly, I would bring to your attention that no matter how well intentioned any company may be it is very hard for the fox to watch the chicken house. Any time a new elevator, escalator, residence elevator or moving walkway is installed there should be someone other than the installation company to insure that the proper equipment is installed and in workmanship like manner.

This bill, if in acted, would insure the public that newly installed elevators, and annually after that, have safeties that have proper stopping ability, communications that enable riders to get in touch with someone if trapped, insure all other safety devices are operable and maybe most important of all, the fire fighters operating features are in compliance with state fire prevention and construction codes.

2-3

I believe in the past this industry has done an excellent job of regulating it's self. Today is different, because of the pressures faced by manufacturing companies, building owners and elevator companies to decrease the bottom line, the industry needs some outside agency to police it to insure the general public that the equipment they depend upon daily is as safely installed and maintained as well as it once might have been.

Respectfully submitted,

RUSSELL G. SCHERGEN

- [1] Mass. Dept. of Public Safety, Elevator World, Vertical Transportation Industry Profile, The Elevator Safety Foundation
- [2] Hubert Hayes, New York elevator consultant.

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STATISTICAL REPORT OF ELEVATOR AND OTHER LIFTS INCIDENTS

by Hubert H. Hayes Hubert H. Hayes, Inc., Elevator Consultants

This information from the National Electronic Injury Surveillance System (NEISS) of the Consumer Product Safety Commission (CPSC) is based on a sample of 446 elevator (or other lift) incidents requiring hospital treatments. NEISS used this data to estimate elevator or other lifts accidents in the U.S. for the calendar year 1991. We have classified these 446 cases by the type of lifts and the other types of accidents. The results follow:

The 446 elevator or other lift accidents were reported from 91 hospital emergency rooms participating in the NEISS, or an average of 4.9 incidents per hospital. The estimates do not take any elevator or other lift fatalities into account.

CPSC projects national elevator accident statistics based on 91 hospitals located in large cities as well as very small towns in 37 of the 50 states, categorized by 14 "very large", 20 "large", 20 "medium" and 37 "small" hospitals (including four military or veterans' hospitals). The diversity of the sample selections could make the estimates more accurately reflect the reality of elevator and other lift accidents that have happened in the U.S.

After contacting the American Hospital Association in Chicago, Illinois, we were given information regarding the number of emergency rooms in the U.S. In 1991, there were 4,908 hospital emergency facilities, and in 1985 there were 28,292 actual emergency rooms to treat patients.⁵

The 446 cases are based on a sample of hospital emergency rooms rather than on a census of all hospital emergency rooms in the U.S. Therefore, statistically, in the U.S., the estimated number of the elevator and other lift accidents accrued in 1991 could be calculated by taking 4.9 average accidents per hospital multiplied by the 4,908 hospitals in the U.S., or 24,049 elevator and other lift accidents in the calendar year 1991.

The Product Summary Report^{4,6} estimated 14,697 cases by applying the curve-fitting procedure used at the Bureau of the Census. The coefficient of variation (c.v.) of the estimated used in the calculation for 1991 is 0.12, or an estimated relative sampling error of 0.12 x 14,697 = 1,764 cases. Which means, for an estimate of 14,697, the range 12,933 (14,697 - 1,764) to 16,461 (14,697 + 1,764) would be the possible range for the number of injuries nationwide. The number estimated (24,049) is over the NEISS estimate (range from 12,933 to 16,461).

STATISTICAL REPORT OF ELEVATOR AND OTHER LIFTS INCIDENTS Page 2

We found that 257 of the total of 446 cases were elevator-related. While 176 were escalator-related, and 13 were other lifts-related, details are as follows (*Product 1814 Elevators or Other Lifts):

1. Elevator accidents

- a. Elevator door-related accidents (any body parts squeezed or caught by elevator doors and gates) = 155
- b. Fell in elevator shaft = 8
- c. Fell in or out of elevator = 45
- d. Fell getting off a stuck elevator = 2
- e. Fell getting off an unleveled elevator = 12
- f. Injured in an elevator that fell in the shaft = 15
- g. Elevator fire = 1
- h. Slipped on a wet elevator floor = 10
- i. Electric Shock = 1
- j. Elevator pinned on head in shaft = 2
- k. Stepped on a nail in the elevator floor = 1
- 1. Contusion by elevator = 1
- m. Foot caught in crack between elevator and floor = 2
- n. Other injuries in elevator = 2

2. Escalator accidents

- a. Fell on or down an escalator = 109
- b. Fell when escalator suddenly reversed = 2
- c. Fell when escalator suddenly stopped = 4
- d. Fell when escalator suddenly started = 1
- e. Multi-cut in escalator = 1
- f. Ankle tripped = 5
- q. Toe got hit on escalator steps = 7
- h. Cut leg on escalator steps = 7
- i. Cut finger on escalator steps = 11
- j. Cut hand on escalator steps = 8
- k. Cut arm on escalator = 2
- 1. Cut foot on escalator steps = 11
- m. Injured by escalator handrail = 2
- n. Knee injured in escalator = 4
- o. Elbow injured in escalator = 1
- p. Injured when shoe string got caught in escalator = 1

3. Other lifts accidents

- a. Caught foot in chair lift = 3
- b. Fell on moving sidewalk = 1
- c. Fell from a lift = 7
- d. Metal lift hit head = 2

STATISTICAL REPORT OF ELEVATOR AND OTHER LIFTS INCIDENTS Page 3

The Death Certificate File², another report from NEISS, shows that in 1991 there were 19 elevator and other lift fatalities. They are:

- a. Fell into elevator shaft = 9
- b. Fell between elevator and I basin = 1
- c. Trapped between elevator and platform = 1
- d. Crushed by elevator in shaft = 1
- e. Tripped and fell into elevator = 1
- f. Crushed when attempting to board an elevator in motion = 1
- g. Fell off roof inside elevator through door = 1
- h. Fell down escalator = 1
- i. Fell out of Hover lift = 1

In the third report from NEISS Reported Incident File³, 10 more elevator or other lifts fatalities were noted. By adding this number to the number (19) mentioned above, there were 29 fatalities in the calendar year 1991.

These 10 fatalities are: 3 of falling down an elevator shaft, 2 of falling down escalator, 1 of crushing by elevator, 1 of falling from lift, 1 of electric shock, 1 of building fire, and 1 of crushing by container which was moving into a lift.

In the Reported Incident Files of NEISS, we also noted 38 more elevator or other lift injury cases which were not included in the 446 cases mentioned in the first paragraph. These cases are: People injured in 9 cases of elevator fires, 3 of elevator smoke, 1 of electric shock, 5 of falling in elevator shaft, 5 of falling on/out elevator, 4 of elevator un-leveling, 3 of falling down escalator, and 8 getting caught in escalators.

We have contacted the New York City Department of Buildings and the Department of Business Regulation Division of Hotels and Restaurants Bureau of Inspection in Florida.

Sources of Accident Reports	Year	No. of Accidents
New York City Dept. of Buildings ^[7]	1991	77
Florida State ^[8]	1991	548
Michigan Dept. of Labor ^[9]	1991	72
Dept. of Public Works, MA ^[10]	1991	108
California State ^[11]	1991	13
City of Los Angeles ^[11]	1991	61
Arizona State ^[12]	1991	5
Pennsylvania State ^[13]	1991	6
Nevada State ^[14]	1991	28
Chicago, IL ^[15]	1991	16
Hawaii State ^[16]	1991	11
SUB-TOTAL	1991	845
NEISS ^[1]	1991	446
TOTAL (Reported)	1991	1291

From their records, in the fiscal year of 1991, New York City had 77 elevator and other lift accidents reported; while 548 elevator or other lift incidents were reported to the Department of Business Regulation Division in Florida from July 1, 1990 to June 30, 1991.

CONCLUSION:

- A. From NEISS' data, we found that the elevator door- or gaterelated accidents were the most frequent cases of elevator injuries, falling in/out of elevators the number two cause of injury, while falling into the elevator shaft was the major cause of elevator fatalities.
- B. Falling down escalators was the major cause of escalator injuries and fatalities in the calendar year 1991. In 176 escalator accidents from NEISS records, 109 injuries were initially caused by falling down escalators, or 62% of total injuries, many of them caused severe injuries like head injuries, cut hands or feet, etc.

STATISTICAL REPORT OF ELEVATOR AND OTHER LIFTS INCIDENTS Page 5

CAUTION: NEISS data and estimates are based on injuries treated in hospital emergency rooms that patients say are related to products. Therefore, it is incorrect when using NEISS data to say the injuries were caused by the product.

REFERENCES:

- 1. Product 1814 Elevators or Other Lifts, NEISS Comments Calendar year 1991, National Electronic Injury Surveillance Systems (NEISS), U.S. Consumer Product Safety Commission (CPSC), National Injury Information Clearinghouse.
- 2. Death Certificate File (not all states reporting during entire period), National Electronic Injury Surveillance System (NEISS), U.S. Consumer Product Safety Commission/Directorate for Epidemiology, National Injury Information Clearinghouse, Elevator or Other Lifts Calendar Year 1991 to the Present.
- 3. National Electronic Injury Surveillance System Reported Incident File, U.S. Consumer Product Safety Commission, National Injury Information Clearinghouse, All Products Calendar Year 1991 to the Present.
- 4. Product Summary Report, National Electronic Injury Surveillance System, U.S. Consumer Product Safety Commission, National Injury Information Clearinghouse, All Products Calendar Year 1991.
- 5. The reference department of the American Hospital Association, Chicago, Illinois.
- 6. Generalized Sampling Errors for NEISS Estimates, National Electronic Injury Surveillance System.
- 7. The New York City Department of Buildings Incident Docket Report.
- 8. Elevator Accidents reported to the Bureau of Elevator Inspection, July 1, 1985 June 30, 1992; Department of Business Regulation Division of Hotels and Restaurants Bureau of Elevator Inspection, Florida.
- 9. Michigan Department of Labor, Bureau of Construction Codes, MI.
- 10. Department of Public Works, Supervising Elevator Inspector, MA.
- 11. Division of Occupational Safety and Health, San Francisco, CA 94102-5304.
- 12. Arizona Industrial Commission, Phoenix, AZ.
- 13. Pennsylvania Elevator Inspections, Harrisburg, PA.
- 14. State Industrial Insurance System, 4600 Kietzke Lane, Building K, Reno, NV 89502.
- 15. Department of Buildings, Chicago, IL.
- 16. Department of Labor & Industrial Relations, Boiler & Elevator Inspection Bureau, 830 Punchbowl Street, Honolulu, HI 96813.

*Publication of the January, 1994, Elevator World.

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... ITERNATIONAL UNION OF ELEVATOR CONSTRUCTO

JOHN J. McNERNEY Business Representative Elevator Constructors



6301 Rockhill Road Kansas City, Missouri 64131 (816) 444-0012

SENATE BILL No. 163

Senator Ramirez

Wed. Feb. 22, 1995

Testifying: John J. McNerney, IUEC Local #12 Business
Manager Kansas City Mo.

Qualifications: Elevator Constructor for 24 years.

National Elevator Industry Education Program (NEIEP), Level III Instructor for 10 Years.

In the last 24 years I have worked in all departments of this trade, Installation, Maintenance, and Repair.

Seuate Hovernmental Organization Attachment 3

2-22-95

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I am here today to speak to this committee about Senate
Bill 163 and how it will benefit the citizens of the State
of Kansas.

As an Elevator Constructor I would like to take this opportunity to explain to this committee just exactly what is preformed when an elevator is inspected by a qualified inspector, and the frequency in which this inspection should be done. In order for this committee to better understand what elevator inspections are and what they do, I would like to describe what is done on three basic types of people moving equipment that we all use daily.

THREE TYPES OF PEOPLE MOVING EQUIPMENT USED BY THOUSANDS
OF KANSAS CITIZENS EVERY DAY:

- 1. Traction Elevators
- 2. Hydraulic Elevators and
- 3. Escalators
- 1. TRACTION ELEVATORS: Traction Elevators are elevators that have cables attached from the elevator cab, over the

machine in the machine room and than to counter weights to counter balance the system. To prevent the elevator form free falling, if the cables should all break, safeties were installed under the elevator to stop the unit safely with a full capacity load. If these mechanical safeties were to malfunction in an emergency condition the elevator would free fall into the pit causing a great amount of damage and injury if somebody happened be riding the elevator at the time of this malfunction.

In States and Cities that have functioning Elevator
Inspection Codes these types of elevators have the
safeties tested once every year by a qualified Elevator
Mechanic while a qualified Inspector witnesses the test.
In conjunction with this test each year, several other
tests are preformed and witnessed on each elevator to
assure that the General Public has a safe elevator to get
to their destinations.

In addition to this annual test, every five years weights are brought in and the safeties are set with a full capacity load in the cab to guarantee a fully loaded elevator will function properly.

2. HYDRAULIC ELEVATORS: Hydraulic Elevators are use in low rise buildings because of there low cost to install and operate. These elevators usually do not have cables and operate by pumping oil under high pressure to move a piston that is attached to the bottom of the elevator cab.

A pressure test is done every year on all hydraulic elevators to be sure that there are no leaks in the system that might cause the unit to fall or malfunction in other ways. In addition, other tests are preformed at this time that would be the same as the traction elevator. The five year full load test is also done on Hydraulic elevators to assure that the system does not leak under a full capacity load condition.

3. ESCALATORS: Escalators are very high maintenance piece of machinery because of the amount of time they run everyday.

If escalators are not maintained properly they can be very dangerous to anybody that uses them. Escalators are also inspected every year (if they are in areas that have enforced inspection codes) and usually requires every safety switch to be tested to be sure that it will function properly. This can be a very involved procedure because some of the new escalators can have in excess of 40 safety switches.

As Technology changes every year we see more and more elevators and escalators being installed in buildings, churches, schools and homes. Because of the new solid state devices available to us today it has lowered the cost of elevators and has made it possible for more people

and organizations to afford these products. Also the American Disabilities Act (ADA) has had a positive effect on the sales of many elevators throughout the entire country. As more and more elevators are being used everyday I think that it is time that we do everything that we can to assure the using public that the product that they are trusting with their lives is as safe as we can make it.