

ELEVATORS / ESCALATORS PLANNING AND SAFETY

OCTOBER 2019

Presenter: **Eric Peterson**, President & CEO, GUNN Consultants



AGENDA

1. Elevating Devices Regulations
(by Nav Chahal, Manager Transportation, Technical Safety BC)
2. GUNN Consultants Overview
3. Key Owner Responsibilities
4. Modernization Overview
5. Industry Maintenance Practices and Common Issues
6. Questions and Discussion

GUNN CONSULTANTS

Who are we?

- Professional engineers for elevators / escalators.
- Independent; no ties to any supplier.
- Areas of expertise:
 - Project Management (Repairs / Modernizations)
 - Inspection & Report
 - Maintenance Contracts
 - Elevator System Design / Construction Services





KEY OWNER RESPONSIBILITIES

OWNER RESPONSIBILITIES

Key recent regulatory requirements for discussion today (currently mandatory):

Safety Order – Escalators / Moving Walk Brake/Startup

Info Bulletin – Incident / Hazard Reporting

Safety Order – Brake – Traction Elevators

SAFETY ORDER:

ESCALATOR & MOVING WALK BRAKE/STARTUP

What is the Issue?

- Safety concern noted re escalators / moving walks
- Numerous incidents observed
- Safety of the public is paramount

Contractor Requirements:

1. Examine/test brakes annually
2. Establish Brake Adjustment Procedure
3. Check brake stopping distance / post sign

Owner Requirements:

1. Perform Daily Start-Up Checklist
2. Daily Stopping Distance Checks

INFORMATION BULLETIN:

INCIDENT / HAZARD REPORTING

What is the Issue?

- Some elevator/escalator incidents must be reported to TSBC
- Others can be dealt with directly by contractor
- Clarification required

Contractor and Owner Requirements:

1. Shared responsibility to report incidents/hazards
2. Refer to INFO BULLETIN for examples and details
3. If in doubt, REPORT IT!

SAFETY ORDER:

BRAKE – ELECTRIC ELEVATORS

What is the Issue?

- Adequate brake maintenance was not being completed
- Disassembly of brake not covered directly by new code

Contractor Requirements:

1. Service brakes per safety order (traction elevators only)
2. Disassemble and service brakes annually
3. Brake declaration submitted to TSBC

Contractor and Owner Requirements:

1. Check maintenance contract – included?
2. Obtain quote for annual servicing if NOT included.

OWNER RESPONSIBILITIES

Regulatory Item	Owner	Contractor
Operating permits	Purchase annually	-
Maintenance contract	Ensure in place, covers all requirements	Notify owner if not in place
Maintenance Duties	-	Complete per regulations
Annual and Five Year safety tests CAT 1 / CAT 5	Extra cost to pay if not covered by contract	Notify owner, complete per regulations
Safety Order - Escalator/MW Startup	Daily checks per SO	Complete service duties per SO
Info Bulletin - Incident/Hazard Reporting	Report to TSBC	Report to TSBC
Safety Order - Brakes Traction Elevators	Extra cost to pay if not covered by contract	Notify owner, complete per regulations

[illegible]

WHY MODERNIZE?

1. Equipment exceeded intended lifespan
2. Parts not available (obsolete), poor reliability
3. Increased safety, meet latest code
(i.e. single speed AC drives)
4. Improved energy efficiency
5. Enhanced system performance



**KEY DRIVERS
for OWNERS**



**ALSO IMPORTANT
but SOMETIMES a
SECONDARY
CONSIDERATION**

TRACTION MODERNIZATION

WHAT IS REPLACED?

1. Replace key components

Controller



Drive



Machine/Motor



Door Equipment



2. Code related upgrades

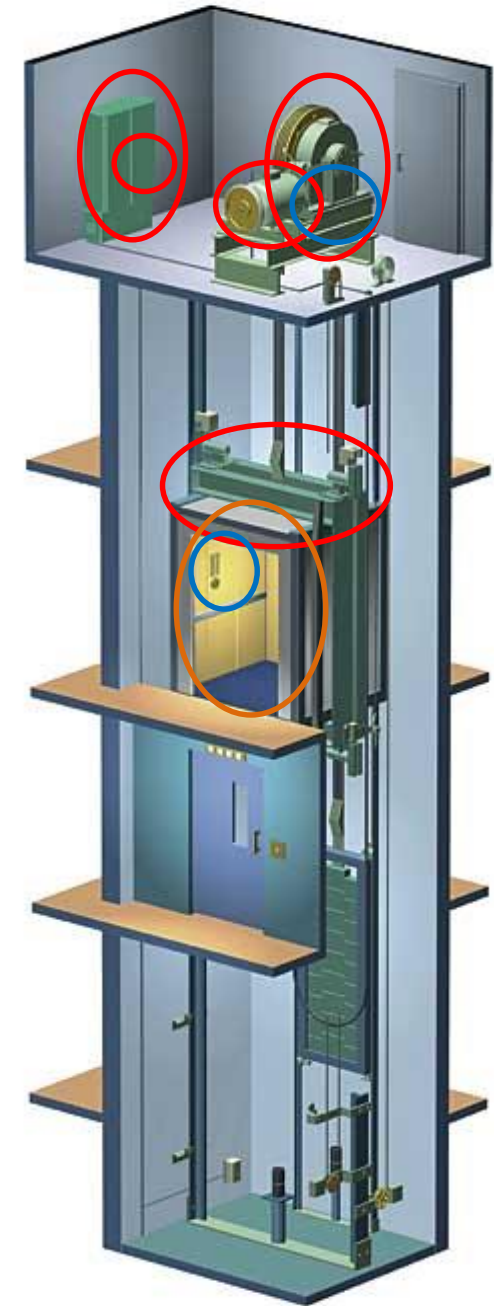
Safety Brake



Disabled Access



3. Improve Aesthetics



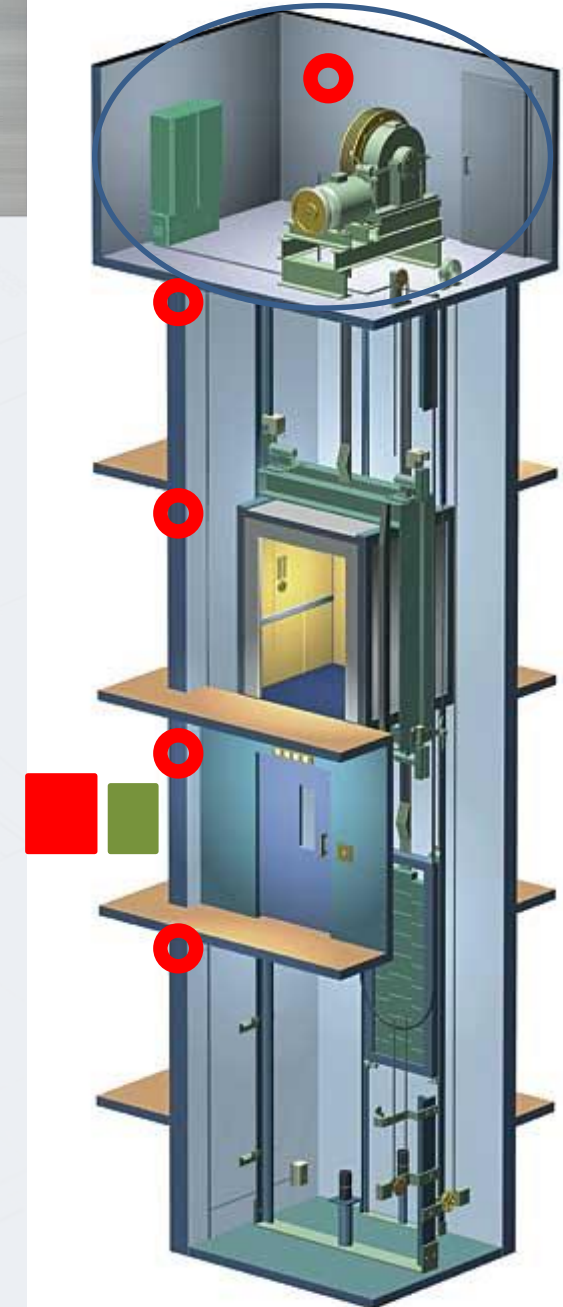
TRACTION MODERNIZATION RELATED WORK

4. Related Work Scope / Recent Code Changes

- Machine room (electrical/mechanical) and Hoistway upgrades
- Fire alarm system upgrade and connection
 - Building Permit Requirements!
 - Latest CSA B44-16 code exempts SOME low rise elevators
- Voice communication
- Security

5. Hydraulic Elevators?

- Similar, MAY be EXEMPT from Fire Alarm connection and BP





MAINTENANCE BEST PRACTICES

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1. Reliability

- 90 - 120 days Mean Time Between Callbacks
- 98% + Minimum Up Time

2. Monthly vs Quarterly Maintenance

- Regulatory MIN Requirement - every 3 months
- Some installations warrant Monthly maintenance

3. Regular Meetings with Contractor

- Quarterly or annually
- Build relationship, communicate expectations

MAINTENANCE BEST PRACTICES

1. Adjustment/reset only, no parts required

- Same Day Repair

2. Typical Repair Requiring Parts Available Locally

- Same Day Typically

3. Repair re Parts from a Regional office

- Most Parts within 24 hours
- Some require 3-5 days

4. Custom or Obsolete Part

- Can be 4-12 weeks!!

MAINTENANCE BEST PRACTICES

- **Know your Regulatory Responsibilities**
 - Technical Safety BC
 - Refer to website regularly
 - Third party advocate (consultant)
- **Thorough Maintenance Contract**
 - Contractor performance requirements
 - CAT 1/ CAT 5 Testing and brake maintenance included
 - Modernization provision
 - Contractor standard format not ideal
 - Escalator Safety Order requirements covered?

TAKEAWAYS

Elevator Regulations

- Know your responsibilities
- Consult TSBC, review website regularly
- Consultant as your advocate

Modernization

- Plan ahead, be pro-active
- Accurate budget and schedule
- Consult latest code requirements

Maintenance

- Well written/thorough maintenance contract
- Performance expectations
- Include for CAT 1 / CAT 5 and other regulatory testing

THANK YOU! QUESTIONS?

