

**Speaker Michael Lagana is the Florida Regional Manager of the Elevator Consulting Group for Lerch Bates, the largest elevator consulting firm in the world.**

**Michael has been in the role for nearly 13 years and previously worked for an International Elevator Company in Illinois, Atlanta and Florida. Michael has consulted on projects that have as many as 500 Elevators and as few as 1 2-story condominium on the beach.**

**Geographically has consulted on projects throughout the Southeast, Brazil, South Africa, Puerto Rico and Bahamas.**

**He has achieved QEI/CEI Licenses for National and State of Florida Elevator Inspection Credentials and is a recipient at Lerch Bates of The Consultancy Excellence Award, nominated by peers and clients.**

**Michael's employer, Lerch Bates, is the premier international building consulting firm specializing in areas of Elevators & Escalators, Building Logistics, Structural, Forensics, Façade Access.**

**ESTABLISHED 1947**

AS THE **FIRST** INDEPENDENT ELEVATOR CONSULTING FIRM IN THE US - MORE THAN **75 YEARS** IN THE BUSINESS



**EMPLOYEE-OWNED**

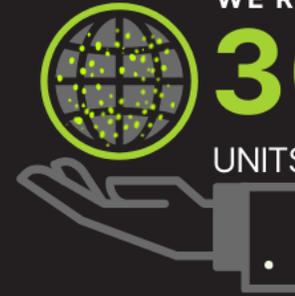
EVERYONE ON OUR TEAM HAS A **VESTED INTEREST** IN THE CLIENT RELATIONSHIP



**AT ANY MOMENT**  
WE'RE TOUCHING APPROX.

**30,000**

UNITS AROUND THE WORLD



**MULTIPLE SPECIALTIES**  
**EVERY BUILDING LIFECYCLE STAGE**  
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**SPECIALTIES:**

VERTICAL TRANSPORTATION  
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ENCLOSURES & STRUCTURES  
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**SERVICES:**

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CONSULTED ON **THE WORLD'S MOST MAGNIFICENT** BUILDINGS

## Agenda

- **ELEVATOR CODE ADOPTION IN FLORIDA**
- **EVOLUTION OF MAINTENANCE CONTRACTS**
- **HOW TO OPTIMIZE RELATIONSHIP WITH CONTRACTOR**
- **BUDGETING TIPS**
- **OPEN Q & A**

**Simply put:**

**We're talking about elevators tonight**

## RULE TITLE: Florida Administrative Code 61C-5.001 Safety Standards.

Dear Elevator Licensee or Elevator Personnel,

The Bureau of Elevator Safety has adopted new ASME Elevator Safety Code A17.3-2015, Safety Code for Existing Elevators and Escalators. Part of this new Safety Code includes Section 3.10 Operating Devices and Control Equipment, Requirement 3.10.12 System to Monitor and Prevent Automatic Operation of the Elevator with Faulty Door Contact Circuits. All conveyances licensed by the State of Florida Bureau of Elevator Safety, including those located within the 5 contracted jurisdictions must be in compliance of the above Code by December 31, 2023. The Bureau of Elevator Safety encourages all owners of conveyances licensed by the State of Florida or any of its 5 Contracted Jurisdictions to contact your Elevator Company to discuss what your conveyances will need in order to comply with this section of A17.3-2015.

Your received this notice because this is the official email address on record for the license(s). If you no longer own, lease or manage the elevator property, please take the time to notify the Bureau of Elevator Safety of the change of ownership at [dh.elevators@myfloridalicense.com](mailto:dh.elevators@myfloridalicense.com). For licensing and other information, you may call our Customer Contact Center at 850.487.1395 between the hours of 8:00 a.m. - 5:00 p.m., ET, Monday through Friday.

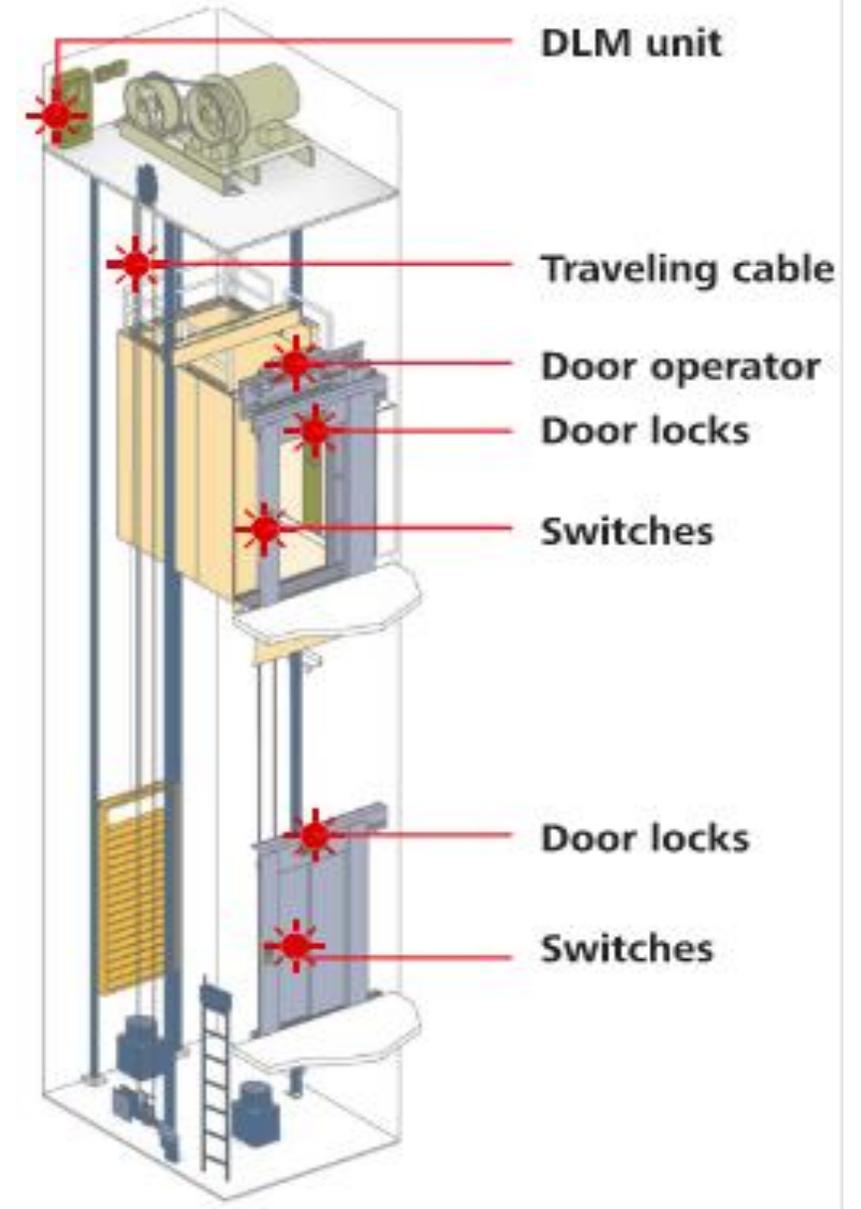
Regards,  
Bureau of Elevator Safety

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CODE ADOPTION

## What?

- Monitors and detects position of doors
- Detects failures in door lock and car gate switch circuits
- Prevents the elevator from operating once fault is detected, which is intended to **prevent car from operating w/doors open!**



## Who?

- Florida has been enforcing the requirement as early as the adoption of the ASME A17.1 1996 Edition. (Today = 2016)
- Only applied to new installations and specific alterations. Most installations prior to the 1996 A17.1 Code ***(Effective in Florida on October 4, 2000 starting with State Serial Number 59628 for most of the State.)***
- Elevators permitted to have a controller alteration i.e. “modernized” from October 4<sup>th</sup> 2000 onward may comply.
- **Many installations have been found with later serial numbers that “should have” the functionality, but do not. Get a test!**

# OPTIONS

## D.L.M. Overlay

**Adds Functionality to Current Controller**

**1 Day Install (avg.)**

**15-25k ea.**

**Not Retained During Future Modernization**



## D.L.M. Software

**Adds Functionality to Current Controller**

**<1 Hr. Install**

**2k-10k ea.**

**Not Retained**

## Modernization

**Resets Lifecycle**

**Hydro: 2-5 wk. Install**  
**Traction: 6-16 wk. Install**

**Hydro: 75k-150k**  
**Traction: 200-500k**

**Additional Benefits beyond DLM functionality**

# DEADLINE

12/31/23

Identify Compliance or Not

Funding

Contracting

Identify Site Specific Option(s)

Operational Impact

DLM = Less Opportunity for Scope Variance

Modernization = High Opportunity for Scope Variance

Short Term vs Long Term

Material Lead Time

Chose Viable Path

Labor Availability

# Evolution of Standard Elevator Maintenance Contracts

<u>80's – 90's</u>	<u>2000-2008</u>	<u>2009-Current</u>	<u>Current &amp; Future</u>
<ul style="list-style-type: none"> <li>• <b>Monthly Maintenance</b></li> <li>• Technician Empowered to perform maintenance in areas of system that he believed it needed</li> <li>• Callback Response Times Stated as 4 hours or less                             <ul style="list-style-type: none"> <li>• <b>The major/minor components covered</b></li> </ul> </li> <li>• <b>Obsolescence Not a topic</b> <ul style="list-style-type: none"> <li>• Billing was monthly                                     <ul style="list-style-type: none"> <li>• <b>Easy to Cancel</b></li> </ul> </li> <li>• <b>Tech typically had &lt;100 units on route</b></li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>“Periodic &amp; Systematic” language introduced</b></li> <li>• Autonomy decline for technician. Technology dictated route &amp; equipment requirements                             <ul style="list-style-type: none"> <li>• GPS Tracking</li> </ul> </li> <li>• Introduction of the 95% uptime assurance.                             <ul style="list-style-type: none"> <li>• <b>Introduction to obsolescence language</b></li> </ul> </li> <li>• Quarterly Payments                             <ul style="list-style-type: none"> <li>• Annual Payment Discounts Introduced (year in advance)</li> </ul> </li> <li>• <b>Techs regularly had more than 100 units on route</b></li> </ul>	<p>High Pressure on Cost Reduction</p> <p><b>Maintenance Intervals &amp; durations almost eliminated</b></p> <p><b>Exclusions of major parts</b></p> <p><b>Exercising Obsolescence Claims at high level</b></p> <p>Exercising Salt Air &amp; Power Claims at high level</p> <p>Pre-Maintenance Charges</p> <p>No Performance Guarantees.</p> <p><b>Difficult to Cancel</b></p> <p><b>Techs have 150-250 Units</b></p>	<p><b>Remote equipment monitoring dictating maintenance</b></p> <p>Contractors taking on equipment w/out full capabilities to support and will invoice for work</p> <p><b>Exclusions of obsolescence &amp; costly components will continue.</b></p> <p>Billing rates will be higher</p> <p><b>Cancellation window is only 30-day period in 5 years.</b></p> <p><b>Possible remote intervention on equipment but does have Union issues. Trending to Callback Industry</b></p>

These are generalizations and don't apply to all contracts [Michael.Lagana@LerchBates.com](mailto:Michael.Lagana@LerchBates.com)

Managing a Contractor starts with establishing and then managing expectations



# Areas we focus on to Improve Contracts

## Key Performance Indicators (KPI)

- Monthly Maintenance
- Monthly Testing for Fire Service
- Minimum Hydraulic Maintenance Time (.5-1.5)
  - Minimum MRL Maintenance Time (.5-2.0)
- Minimum Traction Maintenance Time (1.0-4.0)
  - Response Time for Callbacks (30-160)
  - Response Times for Entrapments (30-60)
  - Non-Performance Based Cancellation
    - Client Meeting Requirements
    - Contractor QAQC Requirements
    - Elevator Reliability Metrics (i.e. <5 yr)
- **Establishing Realistic Expectations for Market**

## Protections

- Pre-qualifications of Contractor Locally
  - Non-Performance Cancellation
  - Financial Penalties for KPI failures
  - Financial credits for missed maintenance
- Monthly Payments so invoice crediting can occur
- Clearly defined obsolescence language and framework to deal with.
  - No Auto-Renew
- Clearly stated Labor Rates (negotiated too)
- O.T. Billable Travel Time Cap or Elimination
- Annual cap on increase or 5 -year pricing upfront
- Ability to award modernization work elsewhere

# Recommendations

- Find Your Contract and Confirm with Contractor that's the Contract they are operating off of
- Identify Cancellation Provisions
- Has it auto-renewed
- Ask for a 12-month Service Callback Report
  - More than 4 service calls per elevator?
  - What is average response time?
  - Does it appear the causes of shutdowns are the same issue i.e. 3<sup>rd</sup> floor door equipment
  - Are callbacks higher in last 3 months versus first 3 months? Identify trends
- Go into elevator machine room and look for a check chart (MCP). How often are maintenance visits and does this align with your maintenance contract requirements. Without touching equipment do you see or hear abnormalities?
- Be an end user. Monitor yourself ride quality, noises and operation before your end user does.
- Write down a list of problems you have with your Contractor, your elevators and or your Contract itself.
- Consider getting 3<sup>rd</sup> Party Assistance when drafting a New Contract and bidding it to ensure apples to apples at a very minimum. One word included or excluded in a contractor's maintenance agreement could cost thousands. Consider having maintenance and equipment evaluated by a 3<sup>rd</sup> party as well.

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## Partnership with Contractor

- **Do you have the contact information for these 4 people**
  - Account Manager
  - Service Manager
  - General Manager
  - Technician
- **When do you meet / engage with Contractor?**
  - Never
  - As problems arise?
  - Annually?
  - Quarterly?
  - Monthly?
- **Do you fully understand the coverages/expectations of your contract**
- **Have you asked/received a 5-year Capital Planner?**
- **Do you believe your Contractor knows what's important to you**
- **Active vs Passive Management Styles**

## Common Mistakes in Budgeting & Planning

# #1: Timeline

- **Historically a 35-year lifecycle** was standard given product subcomponent availability, good maintenance and knowledgeable technicians.
- A **change in equipment technology, landscape of maintenance, decline in training on legacy equipment, and decline in part supply lifespan** has **reduced standard life cycle to 20-25** years presently and the **MRL may be a 15-20 years**.
- **Timeline not updated in budgets which causes:**
  1. **Un-budgeted expenses**
  2. **Insufficient scope of work performed to maintain budget.**
  3. **Project deferred causing reliability issues.**

## #2: Insufficient Elevator Scope

Historically, a modernization was **Controller**, **Pushbutton Fixtures** and new **Door Operator**.

- Now,
  - machines are commonly replaced or heavy refurb
  - Impact of environment on equipment. Rust in hoistway requires remediation/replacement work.
  - comprehensive door mechanical work required
  - Elevator Phone Systems &
  - Improving ride quality
  - Interior cosmetic focus. Basic laminate panels no longer standard.
  - Quality/Material Grade/Proprietary Level
  - Accelerated Installation timeline on critical cabs

### Common Mistakes in Budgeting

## #3: Building Work oversight

Budgeting for Machine room HVAC, electrical work, emergency power, fire alarm retrofit (snowball effect into units), security access control system and general contracting could be 10-35% of the elevator modernization cost and in order to make a functional code compliant project.

Building related work costs have increased 25-100% in projects since pandemic due to raw material shortages and lack of skilled labor as the commercial business competes with single family home business.

Elevator Contractor may not explain these requirements in detail and guide you sufficiently.

### Common Mistakes in Budgeting

# #4: Project Logistics

## Storage & Staging

- 8'x16' or 10'x20' storage container(s)
- Covered Storage, Material Can't get wet
- 3'x5' rollable toolboxes (2-3 per crew)

## Material Mobilization & Constraints

- Crane vs Stairwell
- Rigging Costs
- Structural Assessments
- Safety protocols/added labor hours
- **Environmental/Facility Guideline requirements**

## Common Mistakes in Budgeting

# #5: Maintenance Contract

- An elevator maintenance contract's language can impact the cost of a modernization:
  - Buy out if in the middle of term (50 cents on \$1)
  - Less coverage = more out of pocket expense
  - Obsolescence
  - Less mandatory maintenance = shorter lifecycle and more components requiring replacement vs refurb.

## Common Mistakes in Budgeting

Lerch Bates Solutions™

# Asset Management and Capital Planning

**Where do you fit in?**

## Our Approach to Asset Life Cycle Analytics

Age		Current Condition		Reliability		Parts Availability		Facility Impact Factor	
1-5 years	1	Excellent	1	Call Backs		Readily	1	Non-Essential	1
5-10 yrs.	2	Good	2	<4 / unit / yr	1	6-10 yrs.	2	Required	3
10-15 yrs.	3	Poor	3	5-7 / unit / yr	2	1-5 yrs.	3		
15-20 yrs.	4	Refurbish	4	7-10 / unit / yr	3	Repair only	4	Critical	5
20+	5	Replace	5	10-13 / unit / yr	4	Obsolete	5		
				14+ / unit / yr	5				

**THE HIGHER YOUR SCORE ABOVE IS JUST LIKE A HIGH SCORE IN GOLF...NOT GOOD.**

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## Establish goals & realistic expectations

When you  
embark on a  
modernization  
ask yourself  
some basic  
initial questions

I want to be code compliant, **or** I want to be code compliant and reset the lifecycle of the elevator and improve reliability.

I want the lowest cost, **or** I want the best value for the money spent.

I can handle this on my own with fellow owners **or** I can justify the expense of 3<sup>rd</sup> party assistance.

I want it done during a certain window of time, **or** I want it done when a high-quality crew is available

I value my current contractor, **or** I can't stand them

## ESTIMATED TIMELINES & ESTIMATED COSTS

Task	Hydraulic	Traction	Influencing Factors
Establish Scope	1 Month	2 Months	Who is involved & pace of decisions
Bidding	1 Month	1.5 Month	Contractor backlog, project scope
Award Phase	3 Months	3 Months	Negotiations, Lawyers, Available funds
Engineering	2 Months	2 Months	Backlog, complexity, vendor quantity
Mfg/Delivery/Crew Avail.	4-6 Months	6-10 Months	Backlog, Economic Impacts, Manpower
Installation	1 Month each	2-4 Months each	Actual Scope, Correct Material, Skillset
Total	<b>Long Time</b>	<b>Even Longer</b>	

Floors Served	Hydraulic	Traction
2-5 Stories	\$75,000- \$150,000	\$200,000 - \$250,000
6-10 Stories		\$225,000 - \$300,000
11-20 Stories		\$250,000 - \$500,000
21-30 Stories		\$350,000 - \$550,000
31-40 Stories		\$400,000 - \$600,000
41-50 Stories		\$450,000 - \$650,000+

Additional Items to Consider	Add to Cost
Building Work	<b>10-30%</b>
High Rust Remediation	<b>25%</b>
NEMA 4x Etc.	<b>25%</b>
New Hydraulic Jack Assembly w/Piston	<b>30-50k</b>

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## Best Practices & Best Partnerships

**Meet regularly – “First Thursday of the Month at 9am”**

- **Meet to prevent problems is just as important as solving them**

**Identify and Establish Important Needs and Prioritize**

- **Integrate into Contract via new Contract or Addendum**

**Accountability is Maintained & Trust grows**

- **Both entities follow through with their own commitments**

**Celebrate Success. Compliments & Recognition go a long way**

- **Contractor more amenable to exceeding contract expectations**

**Know what you don't know and Manage your time.**

- **Consider experienced Consultant to join your team.**

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# Q & A

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**We Can Help!**

**New Design/Construction Planning w/Architect**  
**Elevator Condition Assessments**  
**Capital Planning**  
**Specification Drafting**  
**Bidding**  
**Project Management**  
**Marriage Counseling (w/ your elevator contractor)**