



Behind the Magic: Applying the EEBC in Real-World Projects

EPCOT Existing Building Code, First Edition (2024) Overview

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Agenda

- Welcome & Introduction
- Understanding the Structure of the EPCOT Existing Building Code (EEBC)
- How to Use the EEBC
- Real-World Applications & Examples
- Q&A and Closings



Welcome to the EEBC!

Your Guide to Navigating the New Code

Why We're Here:

The EPCOT Existing Building Code (EEBC) is now in effect. It gives your teams **flexibility** when modifying existing buildings, especially in unique or legacy spaces

Sparc has experience applying this ICC-based code around the country—and we're here to help you do the same

What You'll Learn

- How the EEBC is structured and interacts with other codes
- Which compliance path fits your project
- Real-world examples showing practical application
- Tips to avoid costly missteps

Code Structure, Simplified

The EEBC is organized like a toolkit:

- Chapter 1: Administration
- Chapter 2: Definitions
- Chapter 3: Provisions for All Compliance Methods (applicable to all)
- Chapter 4: Repairs
- Chapters 5-14: 'Work Types' (Prescriptive, Work Area, Performance, Alteration vs. Addition vs Change of Occupancy, etc.)
- Chapters 15: Construction Safeguards (Fire Protection, Means of Egress, Accessibility, etc.)
- Chapter 16: Reference Standards
- Chapter 17: Retrofitting

Definitions to Know

Repair = The reconstruction or renewal

The reconstruction or renewal of any part of an existing building to maintain it or fix damage. Includes patching, restoring, or replacing damaged materials, elements, equipment, or fixtures to keep them in good condition for existing loads or performance needs

Addition = An extension or increase in floor area

An extension or increase in a building's floor area, number of stories, or height

Alteration = Any construction or renovation

Any construction or renovation to an existing building that is not a repair or addition
(Defined by Levels 1–3.)

General Requirements – Chapter 3

Provisions for All Compliance Methods

These provisions apply no matter which compliance method you choose — repair, alteration, addition, relocation, or change of occupancy. (Section 302)

- If there's a conflict with other codes, the EEBC takes precedence
- New/replacement materials are allowed if they don't create unsafe conditions
- Existing Materials - shall be permitted to remain in use unless determined by the building official to be unsafe (defined). E.g. "dangerous", "fire hazards", ceiling/wall materials, such as asbestos tiles, lead paint, overloaded systems/structure, decrepit systems/structure, etc.
- Occupancy and Use must follow the EPCOT Building Code
- Additional requirements for existing mechanical equipment (301.4), and swimming pools (302.6)

Choosing Your Own Adventure!

You have three paths to comply with the EEBC.
Pick one based on your project's scope:

- **Prescriptive Compliance Method**
Follows straightforward code provisions,
Chapter 5
- **Work Area Compliance Method**
Based on the extent of work,
Chapters 6-13
- **Performance Compliance Method**
Uses scoring to meet performance criteria,
Chapter 14



Prescriptive – Break out the Code Books

Prescriptive Compliance Method (Chapter 5)

- Provides code provisions for alteration, repair, addition and change of occupancy or relocation
- Similar to typical EPCOT Building Code (EBC) projects; comply with the letter of the code
- Typically has a historical, and empirical basis – ‘written in blood’
 - Iroquois Theatre fire, Chicago, IL, 1903, door swing directions
 - New London, TX school explosion, 1937, natural gas odorization, 49 CFR 192.625
 - Station Nightclub Fire, West Warwick, RI, 2003, 50% egress capacity main entrance
- Implied safety



Work Area – Mo' Money, Mo' Problems

Work Area Compliance Method (Alterations, Chapters 6-9)

Based on the extent of work, Increasing will trigger additional requirements

- **Level 1 Alteration (Chapter 7)**
 - Remove/replace/cover FFE → maintain current level of fire protection/egress
- **Level 2 Alteration (Chapter 8)**
 - +/- any door/window OR reconfigure any system OR install any new equipment AND work area \leq 50% of building area → Level 1 AND corridor ratings, sprinklers, standpipes, fire alarm + additional
- **Level 3 Alteration (Chapter 9)**
 - work area > 50% of building area → Level 1 AND Level 2 AND manual/automatic fire alarm, two-way communication systems + additional

Note: Chapter 6 (Classification of work) directs all Change of Occupancy (Chapter 10), Additions (Chapter 11), Historic, Relocated/Moved (Chapters 12-13) to their respective chapters, no additional requirements

Simple Rule: The more you touch, the more the code asks of you.

Performance – Bring a Calculator

Performance Compliance Method (Chapter 14)

- Use scoring to meet performance criteria
- Investigation and evaluation required to give building scores in 3 categories: Fire Safety (FS), Means of Egress (ME), and General Safety (GS)
- Building scores compared to mandatory safety score (minimum scores that vary based on building occupancy type): Mandatory Fire Safety (MFS), Mandatory Means of Egress (MME), and Mandatory General Safety (MGS)
- Pass/fail rating for each of the three categories:
 - $FS - MFS > 0$
 - $ME - MME > 0$
 - $GS - MGS > 0$
- If building safety is deficient in single/multiple categories, changes should be made to bring the building's safety scores up

Beyond Alteration: What Else Applies?

- **Change of Occupancy (Chapter 10)**
 - Changing how a space is used—even within the same classification (e.g., courtroom vs. dance hall, both A-3)—can trigger different code requirements
 - Define your hazard categories
 - Different Fire Protection Thresholds requires AHJ/Official's approval of project
- **Additions (Chapter 11)**
 - Adding space? You must evaluate height and area
- **Historic Buildings (Chapter 12)**
 - Preservation is the key factor
- **Relocated or Moved Buildings (Chapter 13)**
 - Buildings that are relocated or moved including relocatable buildings
 - Other provisions still applicable if you alter, repair, modify or change of occupancy

Additional Considerations

Construction Safeguards, Referenced Standards, Retrofitting (Chapters 15, 16, 17)

- **Construction Safeguards** – Comply with EEBC, EBC and FFPC
 - Additional considerations when building is still occupied
 - See Chapter 33 of EBC, Chapter 16 of FFPC-NFPA 1
 - Additional considerations beyond EBC –
 - Arson - Da Vinci complex, Los Angeles, CA, 2014, 1.3 MM sq. ft.
- **Referenced Standards** – EPCOT, NFPA, etc.
- **Retrofitting** – provides prescriptive methods for partial structural retrofit for only eligible Group R-3 Occupancies with nine (9) other additional conditions

How to Use the EEBC

Step-by-Step Process for Applying the Code

- Determine the existing building's occupancy group classification and/or new occupancy
- Select the appropriate compliance method (who here remembers the Choose Your Own Adventure book series from the 1980's and 1990's?)
- Identify applicable requirements for the specific type of work (repair, alteration, addition, change of occupancy, relocation)
- Apply specific requirements for fire protection, egress, structural integrity, etc.

How to Use the EEBC

Common Code Interactions: How EEBC Works with Other Codes

- Relationship with EBC (New Construction)
- Relationship with Florida Fire Prevention Code (FFPC); NFPA 1, NFPA 101
- Relationship with Accessibility Codes (ADA & ICC A117.1)
 - Section 202 of EPCOT Accessibility Code for Existing Buildings and Facilities



How to Use the EEBC

Key Challenges and Considerations

- What is considered an “existing” building?
 - A building erected prior to the date of adoption of the appropriate code, or one for which a legal building permit has been issued.
 - Buildings not previously occupied. Where not occupied and permits kept active original codes permitted, however subsequent permits or where permits expired shall comply with current EPCOT Codes.
- Historic buildings (Chapter 12): Special provisions and exemptions (e.g. historic buildings construction type increase when sprinklered)
 - NOTE! Once you’re defined as a historic building, you cannot undue that election.
 - Historic buildings usually can’t be demolished, must use era-appropriate materials, etc.
- Fire protection and means of egress upgrades
- Cost implications of different compliance paths



Real-World Applications and Examples

Renovation of an Office Building

The Challenge: You're reconfiguring an existing office: new layouts, no added space or stories. You want to improve without triggering unnecessary upgrades.

The Path: Prescriptive Compliance (Chapter 5)
When minimal upgrades are required.

Why It Works: Minimal Work = Minimal Burden

- **No major alterations** → No floor area, height, or story increase
- **Not a substantial improvement** (<50% of market value) → No flood design updates needed (503.2)
- **Work area <50%** → No two-way comms needed at elevators (503.17)
- **Gravity load increase $\leq 5\%$** → Structural elements stay as-is (503.3)
- **Live loads unchanged** → Use placards for any nonconforming elements (503.3.1)
- **Lateral loads unchanged** → No wind/hurricane upgrades triggered
- **No occupancy change** → Existing nonconforming items can remain (506.3)
- **Fire Protection Systems** → Comply with FFPC for Specific Occupancy/Use

Renovation/Reimagining of Existing Theatric Show

The Challenge: You're updating a theater attraction with new HVAC, A/V, costuming, and control systems. While the layout stays mostly the same. It's not a repair or an addition, but it's more than a touch-up. What level of compliance applies?

The Path: Work Area Compliance (Chapter 6)

This project is classified as an Alteration, most likely **Level 2**, based on the systems affected and scope of work.

Why It Works: Scope Determines Requirements

- **Not a repair or addition** → Classified as an alteration
- **FFE-only updates** → Start at Level 1 (Ch. 7)
- **Systems added or doors reconfigured, ≤50% area** → Level 2 applies (Ch. 8)
- **More than 50% of the building affected** → Level 3 applies (Ch. 9)
- **Stairways, smoke barriers, fire-resistance** → Addressed under Building Elements (803)
- **Sprinklers, fire alarms, detection systems** → Required based on scope (804)
- **Egress features** → Exits, signs, lighting, etc. must be evaluated (805)
- **Complies with EEBC 302.2 FFPC-NFPA 101 Ch. 13** → Existing Assembly Occupancy
- **Most new systems already meet modern code** → Fewer retroactive upgrades

Retheme Existing Special Amusement Attraction

The Challenge: You're overhauling an entire attraction—new HVAC layout, entirely new A/V, theming, and show sets—while keeping the ride structure in place. The project impacts the entire building and exceeds a basic alteration.

The Path: Work Area Compliance (Chapter 6)

This is an **Alteration**, and due to the scope and size, it qualifies as a **Level 3 Alteration**.

Why It Works: Full Scope = Full Requirements

- **Not a repair or addition** → Classified as an alteration
- **Entire building impacted (>50%)** → Meets Level 3 criteria (Ch. 9)
- **Shafts, vertical openings, and finishes** → Reviewed under Building Elements (903)
- **Sprinklers, fire alarms, detection systems** → Required based on system scope (904)
- **Egress Features** → Evaluate lighting, exit signs, and elevator two-way communications (905)
- **Also address** → Accessibility, Structural, Energy, and Plumbing systems
- **Most new systems already meet code** → Less retroactive adjustment needed

FP & Egress Upgrades in a Multi-Story Building

The Challenge: Your renovation reveals life safety gaps — outdated fire systems, questionable egress routes, and missing support features. You're upgrading but not rebuilding. How do you evaluate what's truly required?

The Path: Performance Compliance (Chapter 14)

When prescriptive rules don't fit, this method uses scoring to assess safety and guide upgrades.

Why It Works: Safety Based on Real Conditions

- Evaluate the building in three key categories:
 - **Fire Safety** → structural fire resistance, alarms, sprinklers, suppression systems (1401.5.1)
 - **Means of Egress** → layout, lighting, signage, access features (1401.5.2)
 - **General Safety** → overall egress and fire protection performance (1401.5.3)
- **Use the Summary Sheet (Table 1401.7) to document your scores**
- **Compare them to Mandatory Safety Scores (MFS, MME, MGS) in Table 1401.8**
- **If any score falls short → implement targeted improvements to meet code minimums**

Final Considerations

Code Transition Reminder: Know Your Window

- Permits submitted between March 31, 2025 and October 1, 2025 → You may choose to use either the old code or the new codes, including EEBC — but not both on the same project.
- After October 1, 2025 → All projects must comply with the new codes.

• Don't Assume — Verify

- Just because something was required yesterday doesn't mean it is today. Always check the new code text before applying old assumptions.
- Example: **Welded stainless steel gas piping** is no longer required in kitchens under the new code.

If you're unsure about a requirement:

- Review the published code commentary
- Consult internal and external experts
- Only then reach out to CFTOD
- It is important to maintain a consistent code interpretation and application across projects.

KEY TAKEAWAYS

- EEBC provides flexibility compared to EBC and FFPC
- Three compliance paths allow for different approaches to existing building modifications
- Understanding triggers for code upgrades is essential

RESOURCES

- EPCOT Existing Building Code
- EPCOT codes
- ICC Website & IEBC Handbook
- Florida Fire Prevention Code (FFPC)
- Local code amendments or modifications (Supplements)
- Internal and External experts

THANK YOU FOR ATTENDING!
ANY QUESTIONS?



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