



# Work Group Update

Building RF and Paging Work Group



# Work Group Name Change

- Fire Paging Work Group is now Building RF and Paging Work Group
- Scope
  - Remaining
    - 7/800MHz Fire Paging on the MPSCS
  - Additional
    - Focus on In-Building Coverage with the Standardization, Education, and Enforcement of Bi-Directional Amplifiers (BDAs)



# What are Bi-Directional Amplifiers

- A device used to extend radio coverage to hard-to-reach areas
- Primarily used in buildings to improve indoor radio coverage
- Other names
  - BDA
  - Signal Booster
  - Distributed Amplifier System (DAS)
  - Emergency Responder Communications Enhancement System (ERCES)



# Work Group Goals for BDAs

- Educate Stakeholders about Regulations and Codes relevant to BDAs
- Promote Enforcement of Regulations and Codes relevant to BDAs
- Standardize treatment of BDAs Statewide
- Assist the MPSCIB Board with ensuring the public safety community is well prepared today and in the future with the emergency communications ecosystem.
- Assist in preserving the integrity of emergency communications ecosystem with a reliable radio signal when first responders are inside structures.
- Assist with educating & informing communities across all 83 Michigan counties with understanding the impacts of zoning & building materials on public safety communications.



# Regulations and Codes

- FCC Regulations
  - 47 CFR 90.219
- Fire Codes
  - IFC 510 as referenced by MBC 916
  - NFPA 1221 & NFPA 1225
- Electrical
- Building



# Key Stakeholders

- Building Owners
- BDA Designers/Installers
- Radio System Licensee
- Fire Inspectors/Marshals
- Electrical Inspectors
- Building Inspectors
- Plan Examiners/Reviewers
- Architects, Designers, Engineers
- FCC
- Other Code Officials



# FCC Part 90.219 and Licensee

- 90.219 (b)(1)(i)
  - Non-licensees seeking to operate signal boosters must obtain the express consent of the licensee(s) of the frequencies for which the device or system is intended to amplify. The consent must be maintained in a recordable format that can be presented to an FCC representative or other relevant licensee investigating interference.
- 90.219 (d)(5)
  - Class B signal booster installations must be registered in the FCC signal booster database that can be accessed at the following URL:  
[www.fcc.gov/signal-boosters/registration](http://www.fcc.gov/signal-boosters/registration).





# The Problem

- The use of public safety signal boosters is **a growing** consideration for the State of Michigan, building code officials and fire inspectors across Michigan
- Officials do **not** seem aware of the MBC 916 and IFC 510 application

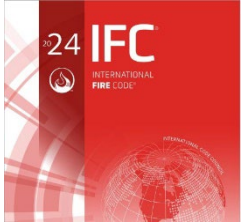




# First Responders and the Communities They Protect

- NIOSH (National Institute for Occupational Safety and Health) **has identified radio communications as one of the most critical services in preserving *the life safety of firefighters*. Police and EMTs equally** rely on always-available communications to provide support in dangerous situations or, in the case of EMTs, provide life-saving instruction.

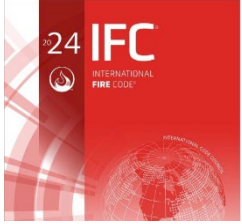




# Survey



- ❖ Do you enforce IFC Section 510 Emergency Responder Radio Coverage?  
*Results: Majority **do enforce** IFC 510 as mandated by MBC 916.*
- ❖ Are you aware of all signal boosters/BDA installations in your jurisdiction?  
*Results: Majority are **not aware** of all signal boosters within their justification.*
- ❖ Do you follow IFC 510 and require annual inspection and maintenance on signal boosters/BDA systems?  
*Results: Vast majority **do not** require annual inspection and maintenance required by IFC 510.*



# Survey



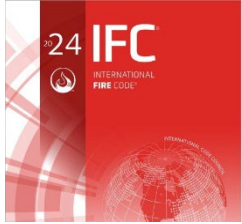
- Do you request a copy of the Letter of Consent that is required by MPSCS from the contractor installing the system?  
*Results: Vast majority (only 3 raised hands observed) **do not** request a copy of the MPSCS Letter of Consent from the installing vendor.*
- Does your plan review process include IFC 510 requirements.  
*Results: Majority **do not** include IFC 510 in their plan review process.*
- Do all signal boosters/BDA installations in your jurisdiction comply with FCC regulations?  
*Results: Majority are **not aware** if all signal booster's systems are compliant with FCC in their jurisdiction.*



# Survey



- ❖ Do you communicate with your building official on new signal booster/BDA installations?  
*Results: Majority **do not** communicate with their building official on new signal booster installations.*
- ❖ Do you communicate with your electrical inspector on new signal booster/BDA installations?  
*Results: Majority **do not** communicate with their electrical inspector on new signal booster installations.*



# Survey



- ❖ Do you request a copy of the Letter of Consent that is required by MPSCS from the contractor installing the system?  
*Results: Vast majority (only 3 raised hands observed) **do not** request a copy of the MPSCS Letter of Consent from the installing vendor.*
- ❖ Does your plan review process include IFC 510 requirements.  
*Results: Majority **do not** include IFC 510 in their plan review process.*
- ❖ Do all signal boosters/BDA installations in your jurisdiction comply with FCC regulations?  
*Results: Majority are **not aware** if all signal booster's systems are compliant with FCC in their jurisdiction.*







# New Paging Developments

Network Upgrades – Site Adds and Simulcast Build Outs - Neighbors

▼ These require pager reprogramming - best planned in advance

Physical Tower Replacements – Steel

▼ Radio and pager coverage will change during the upgrade process

Experts often help others



Questions?





# Contact Information

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