

# Wireless Workshop

Carlsbad City Council Meeting

June 23, 2021

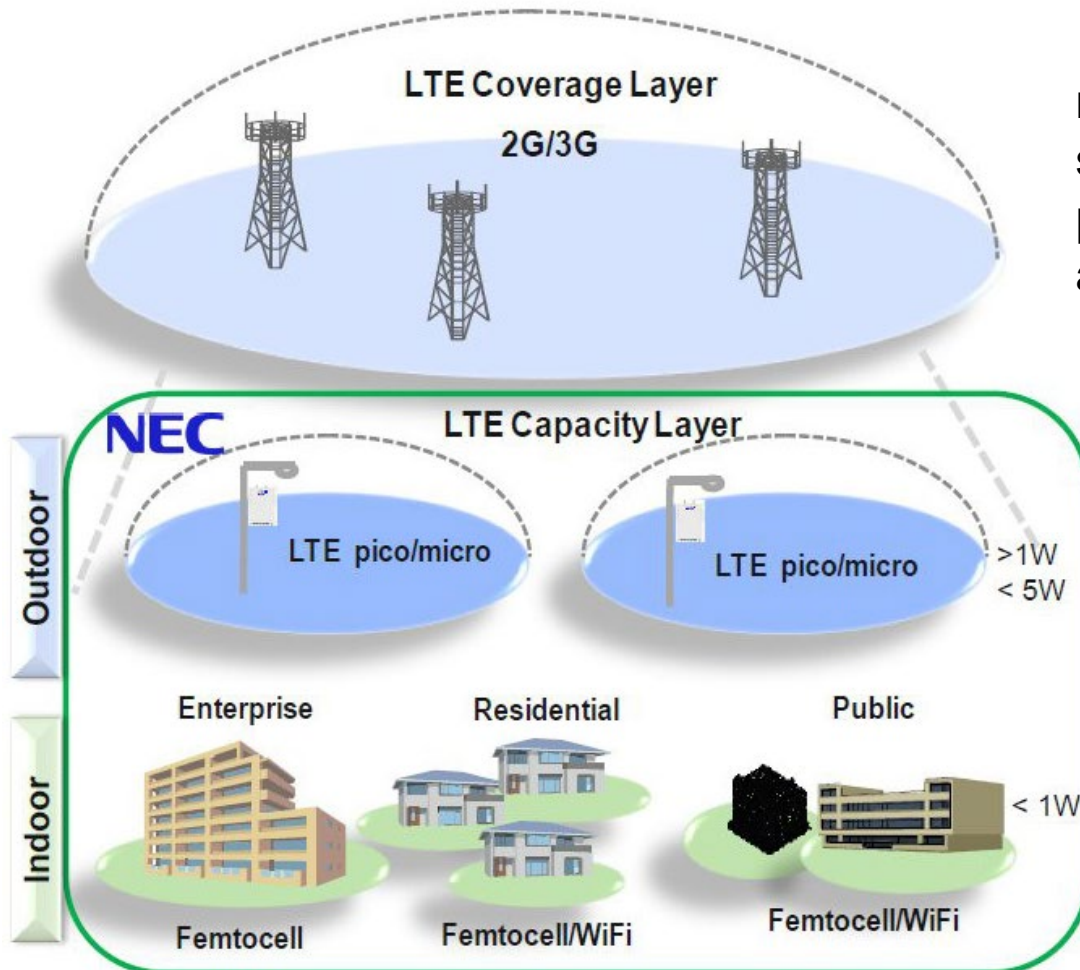
# Road Map

- 1. Technical Primer: What are These Things?**
- 2. Legal Standards: What Federal, State and Local Laws Affect Deployment?**
- 3. What's on the Horizon?**

# What are These Things?

a quick technical primer on  
cellular technologies and facilities

# Network Densification and Het-Nets



macrocells provide coverage  
small cells and femtocells  
provide enhanced capacity  
and data throughput

het-nets  
(heterogeneous networks)  
allow users (both  
human and machine) to  
access core networks thru  
multiple cell layers and/or  
technologies based on the  
fastest connection



← unconcealed antenna

← weatherhead for utilities  
routed thru external  
conduits

← equipment cage  
RRUS, DC suppressor,  
fiber distribution

← optional backup battery

← power meter

← distribution panel and  
disconnect switch





Sandia

Castle Hills

5476









Follow  
To T







fiberglass decorative radome concealment

low power antennas

small RRUs

# **What Federal, State and Local Laws Affect Deployment?**



# 47 U.S.C. § 332(c)(7)

## Personal Wireless Service Facilities

### Substantive Limitations

- cannot explicitly or **effectively prohibit** wireless services or wireless facilities
- cannot **unreasonably discriminate** between functionally equivalent services or providers
- cannot regulate based on **environmental effects from RF emissions** to the extent such emissions comply with FCC regulations

### Procedural Requirements

- must act on wireless application with a **reasonable time** given scope and project type
- must issue a **written decision** based on **substantial evidence** in the written record

# FCC RF Exposure Limits

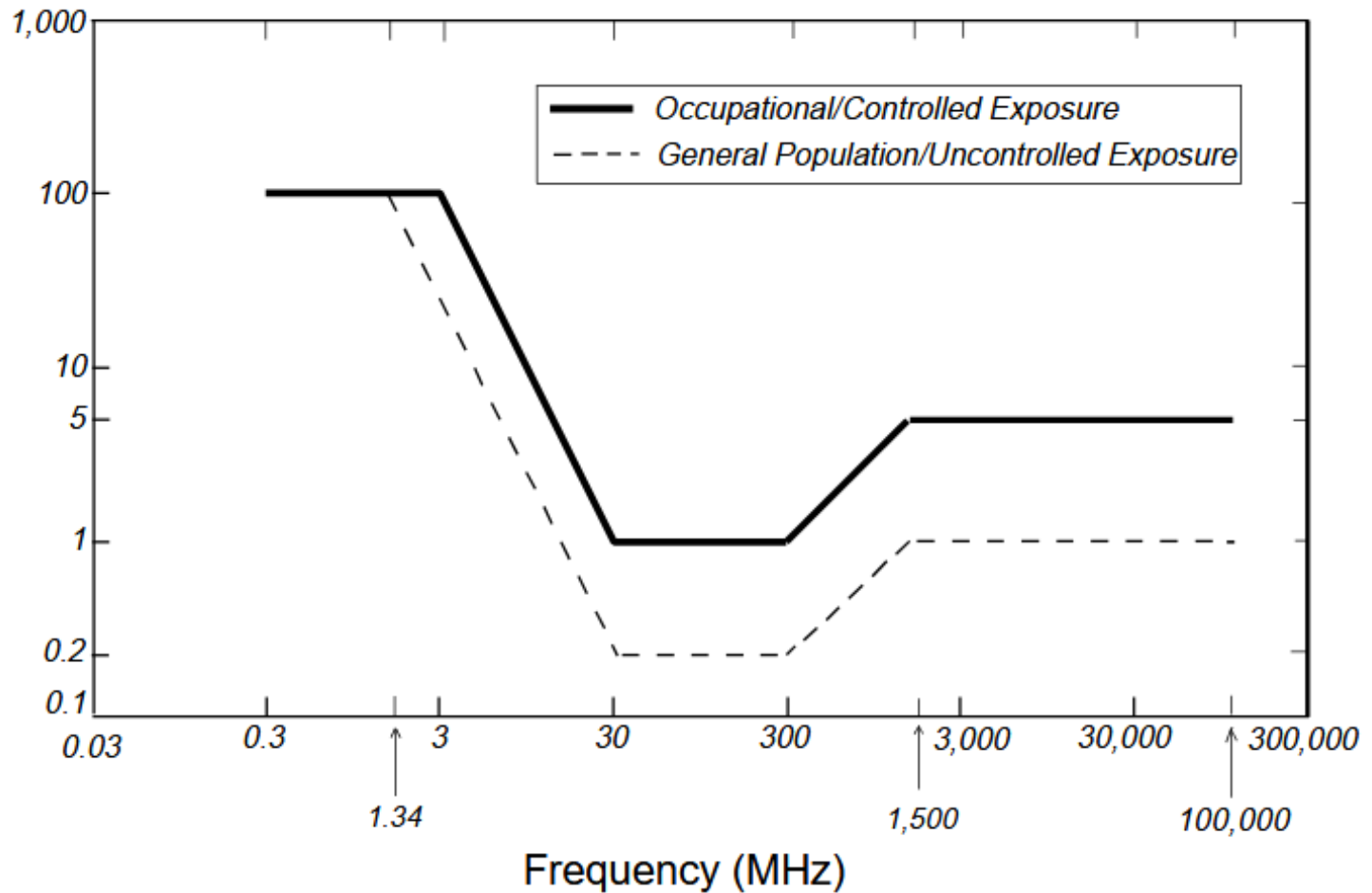
## Basics

- developed in 1996-97; recently reaffirmed by FCC
- considers only thermal impacts from RF
- state/LG cannot set their own standards but can check for compliance and regulate noncompliance

## Dynamic Exposure Limits

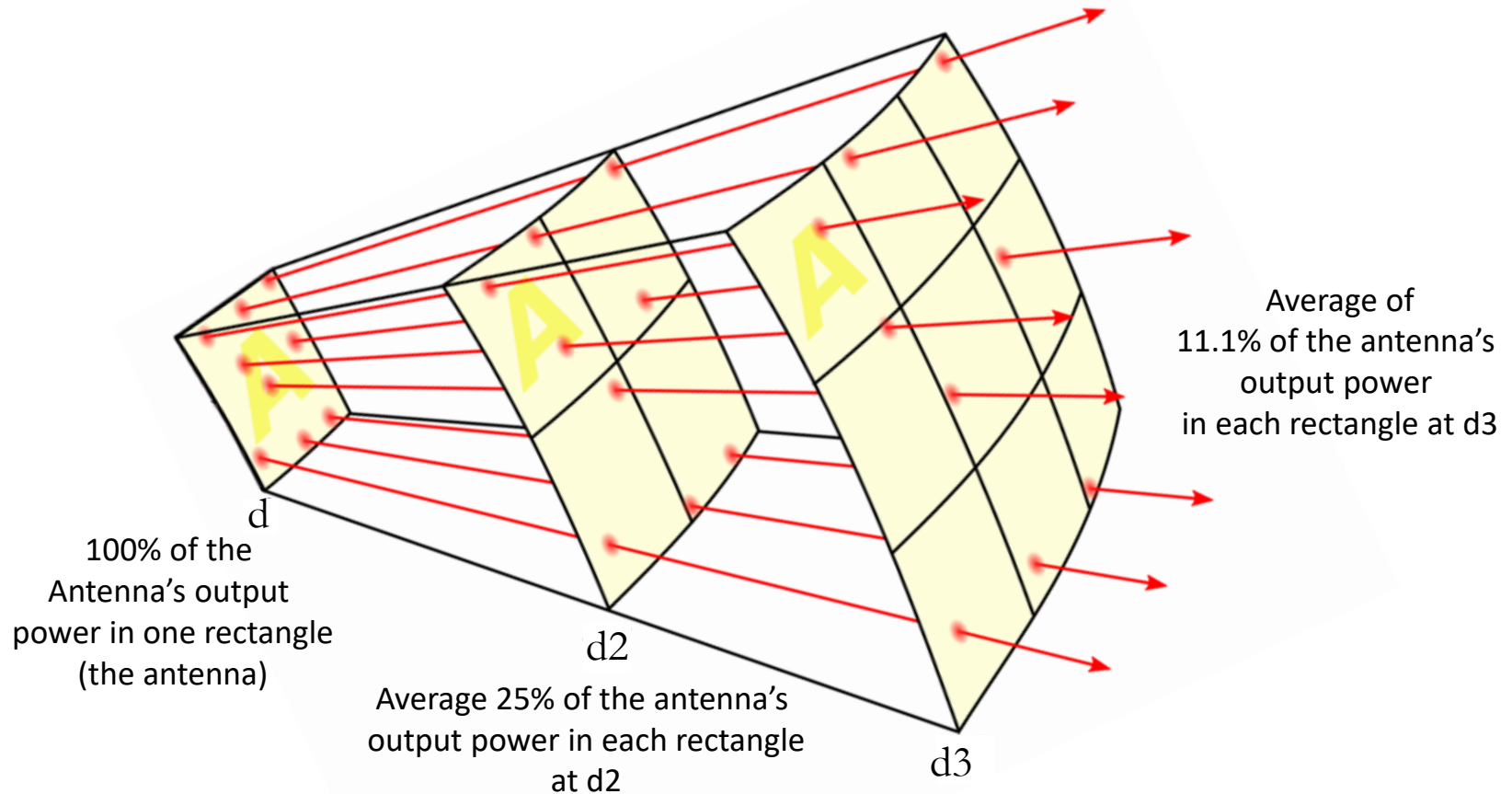
- compliance depends on who's exposed; to what frequencies; at what distance from the antenna; at what power levels; and for how long
- lower limits for general population; higher limits for "occupational" class (those w/ control over exposure)
- sets maximum limit for general population at 50x lower than exposure required to change temp in a human cell

*Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)  
Plane-wave Equivalent Power Density*





# Why Does the Distance from Antenna Matter to the FCC?



## The Law of the Inverse Square

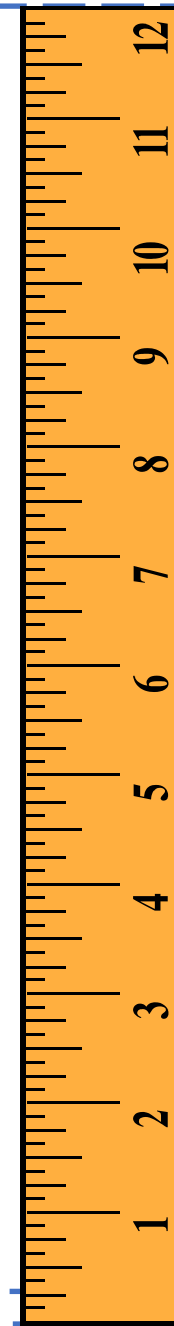
**FCC RF  
Safety Standards  
with No Math**

**Measurable  
increase in  
temperature**

**Where does the FCC  
set its standard?**

**FCC's 100% General  
Population Limit**

**Typical for  
Small Cells:  
Emissions of a  
fraction of 2%**



**50x  
2% of  
Margin  
permitted**

# RF Compliance Evaluation

## Assume “Worst-Case” Scenarios

- maximum possible equipment output
- perfect signal propagation
- trespassers on/near the antennas

## Assess Accessibility

- will the facility create emissions that exceed the FCC’s maximum limits?
- how likely would it be for a GenPop member to stand too long in front of the antennas?

## Mitigation Conditions (if needed)



# 47 U.S.C. § 1455(a) (aka Section 6409)

State and local governments *may not deny, and shall approve*, any collocation or modification request for an *existing wireless tower or base station* so long as it does not cause a *substantial change in its physical dimensions*.

# Substantial Change

Criteria	Towers	Base Stations & ROW
Height	20 feet or ten percent	10 feet or 10 percent
Width	20 feet or tower width	6 feet
Equipment Cabinets	4 maximum	same, plus other complicated rules
Excavation	within the leased or owned area	same, and some further restrictions
Concealment	cannot “defeat” the concealment elements	
Compliance with Prior Permit Conditions	changes must comply with all prior conditions except limits on height, width, cabinets or excavation	

# 6409 Declaratory Ruling

35 FCC Rcd. 5977 (Jun. 10, 2020)

## Reinterprets FCC 6409 Rules

- shot clock commencement
- reduced protections for concealment elements
- reduced protections for prior COAs
- changes maximum height limit for non-ROW towers
- excludes certain equipment from “equipment cabinet” definition

## Legal Challenges Pending

- Case No. 20-71765 (2019)

# 6409 Order

WT Docket No. 19-250 (Nov. 3, 2020)

## Modifies Threshold for Substantial Change in Site Area

- prior rule: any change in site area = substantial change
- new rule: any expansion 30 feet or less = not a substantial change
- applies only to towers outside the ROW

## Challenges Pending

- petition for reconsideration filed 01/04/2021
- no judicial challenges pending



# FCC's 2018 Orders

## Prohibits “Express” & “De Facto” Moratoria

- must accept applications
- cannot use traditional local tool to study the issue

## Small Cells - Less Discretion, Less Time

- creates a new regulatory classification for **small wireless facilities**
- establishes a national standard for an **effective prohibition** with new presumptions and remedies
- adopts **new, faster shot clocks** for processing applications
- limits **pole attachment fees** and local **aesthetic regulations**

# “Small Wireless Facility”

(l) *Small wireless facilities*, consistent with section 1.1312(e)(2), are facilities that meet each of the following conditions:

(1) The facilities—

(i) are mounted on structures 50 feet or less in height including their antennas as defined in section 1.1320(d), or

(ii) are mounted on structures no more than 10 percent taller than other adjacent structures, or

(iii) do not extend existing structures on which they are located to a height of more than 50 feet or by more than 10 percent, whichever is greater;

(2) Each antenna associated with the deployment, excluding associated antenna equipment (as defined in the definition of antenna in section 1.1320(d)), is no more than three cubic feet in volume;

(3) All other wireless equipment associated with the structure, including the wireless equipment associated with the antenna and any pre-existing associated equipment on the structure, is no more than 28 cubic feet in volume;

(4) The facilities do not require antenna structure registration under part 17 of this chapter;

(5) The facilities are not located on Tribal lands, as defined under 36 CFR 800.16(x); and

(6) The facilities do not result in human exposure to radiofrequency radiation in excess of the applicable safety standards specified in section 1.1307(b).

AT&T 4G  
Beverly Hills





9312

5.25 feet

2.25 feet

1.90 feet

AT&T

22.5 cubic feet





AT&T 4G  
by Crown Castle  
San Diego





Verizon 4G/5G  
West LA





# Verizon 5G Only San Diego



# Effective Prohibitions

## Fees

- **reasonable approximation** of government's costs
- only **objectively reasonable costs** are factored into those fees,
- the fees are no higher than the fees charged to **similarly-situated competitors in similar situations**

## Aesthetics

- **reasonable** (i.e., technically feasible)
- **published in advance**



Mobilitie  
Alabama



AT&T 4G  
by Crown Castle  
San Diego







# AT&T 4G San Diego

# Shot Clocks

## Shorter Timeframes

**60 days**

- small wireless facility “**collocations**”
- all eligible facility requests under Section 6409

**90 days**

- small wireless facilities on new structures
- collocations not covered as an eligible facilities request or small wireless facility

**150 days**

- everything else...
- new, freestanding non-small wireless facilities

# ***Portland v. United States***

**969 F.3d 1020 (9th 2020)**

## **Challenged *Small Cell/Moratorium Orders***

### **Mixed Result**

- upheld *Moratorium Order*, shot clock rules and limits on permit/license fees
- struck down aesthetic/non-fee regulations

### **Further Challenges**

- Ninth Circuit denied petition for reconsideration
- Cert. Petition to US Supreme Court filed 03/21/2021

# California Public Utilities Code

## Section 2902

- municipalities cannot “surrender” police powers to the CPUC to regulate relationship between the public and utilities

## Section 7901

- grants telephone corporations a state-wide franchise to access and use the public rights-of-way to the extent necessary to provide telephone services
- providers cannot **incommode** the public's use
- preserves **aesthetic control** over ROW facilities

## Section 7901.1

- preserves reasonable **time, place and manner** regulations over how telephone corporations access and use the ROW
- regulations must be applied equally to all providers



# California

## Gov't Code § 65964.1

California state law “**deems approved**” any application for a **new or substantially changed wireless site** when:

1. the LG fails to approve or deny the application within the applicable FCC shot clock timeframe; **and**
2. the applicant has provided all public notices required for the application; **and**
3. the applicant has provided notice to the LG that the application is deemed approved;  
**. . . and possibly . . .**
4. 30 days have passed since the notice date.

# Local Law

## City's Hybrid Code-Policy Approach

- Carlsbad Municipal Code § 21.42.140(B)(165)
- Council Policy No. 64

	private property	public ROW
ROW Permit	NA	compliant w/ all location and design requirements
Minor CUP	compliant w/ all location and design requirements	compliant w/ all design requirements but in discouraged location
CUP (Process 2)	all other applications	all other applications

# Council Policy No. 64

## Location Guidelines

### Preference Hierarchy

- establishes priorities:
  - industrial/commercial over residential;
  - collocation over new sites;
  - existing/replacement structures over new ones
- ROW can be “preferred” when adjacent to industrial/commercial zones or on major arterials

### Discouraged Locations

- approvable only when applicant shows all more-preferred locations/structures are infeasible

# Council Policy No. 64

## Design Guidelines

### General Requirements

- stealth designs to hide or disguise equipment
- minimize overall height
- compliance with federal RF exposure rules

### • ROW Facilities

- minimize unnecessary equipment volume
- underground whenever possible
- allows some extra height to keep a slimmer profile
- avoid unnecessary obstructions for vehicles, bicyclists and pedestrians

# **Council Policy No. 64**

## **COAs and Operational Rules**

### **Avoid/Minimize Nuisances**

- noise and ambient light controls
- regular maintenance requirements

### **On-Going RF Compliance Obligations**

- permittee to submit as-built compliance report w/in six months after construction

### **Abandoned Facility Removal Obligations**

### **10-Year Permit Term Limits**



# What's on the Horizon?

pending legislative, regulatory and judicial activities that  
impact local authority over wireless facilities

# Proposed Legislation

## **SB 556 (Dodd/Hertzberg)**

- worse than FCC *Small Cell Order*
  - makes all poles available for small cells
  - at rates below actual cost
  - with less time than FCC shot clock
- already passed in Senate; some version likely to pass

## **SB 378 (Gonzales/Herzberg/Wiener)**

- by-right micro trenching for conduits only

## **AB 537 (Quirk)**

- allows construction if permits deemed approved under AB 57

## **AB 1166 (Grayson)**

- remedies similar to AB 537 but includes new sites, collocations *and* 6409 applications

# Questions?



## Robert C. May III

Managing Partner

Telecom Law Firm, PC

3570 Camino del Rio N., Ste. 102  
San Diego, CA 92108

(619) 272-6200

[tripp@telecomlawfirm.com](mailto:tripp@telecomlawfirm.com)

practice focused on representing public agencies and other landowners in telecom infrastructure regulations and transactions

represents the League of California Cities, League of Oregon Cities, League of Arizona Cities and Towns and dozens more public agencies before the FCC and federal courts

represents 100+ public agencies in telecom regulation, permitting, leasing, construction and litigation matters

JD, University of San Diego School of Law  
Executive Editor, *San Diego Law Review*  
Executive Board, Moot Court

