Wireless Technology and Contracts
Negotiating AMI and Cell Site Contracts

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Topics Covered

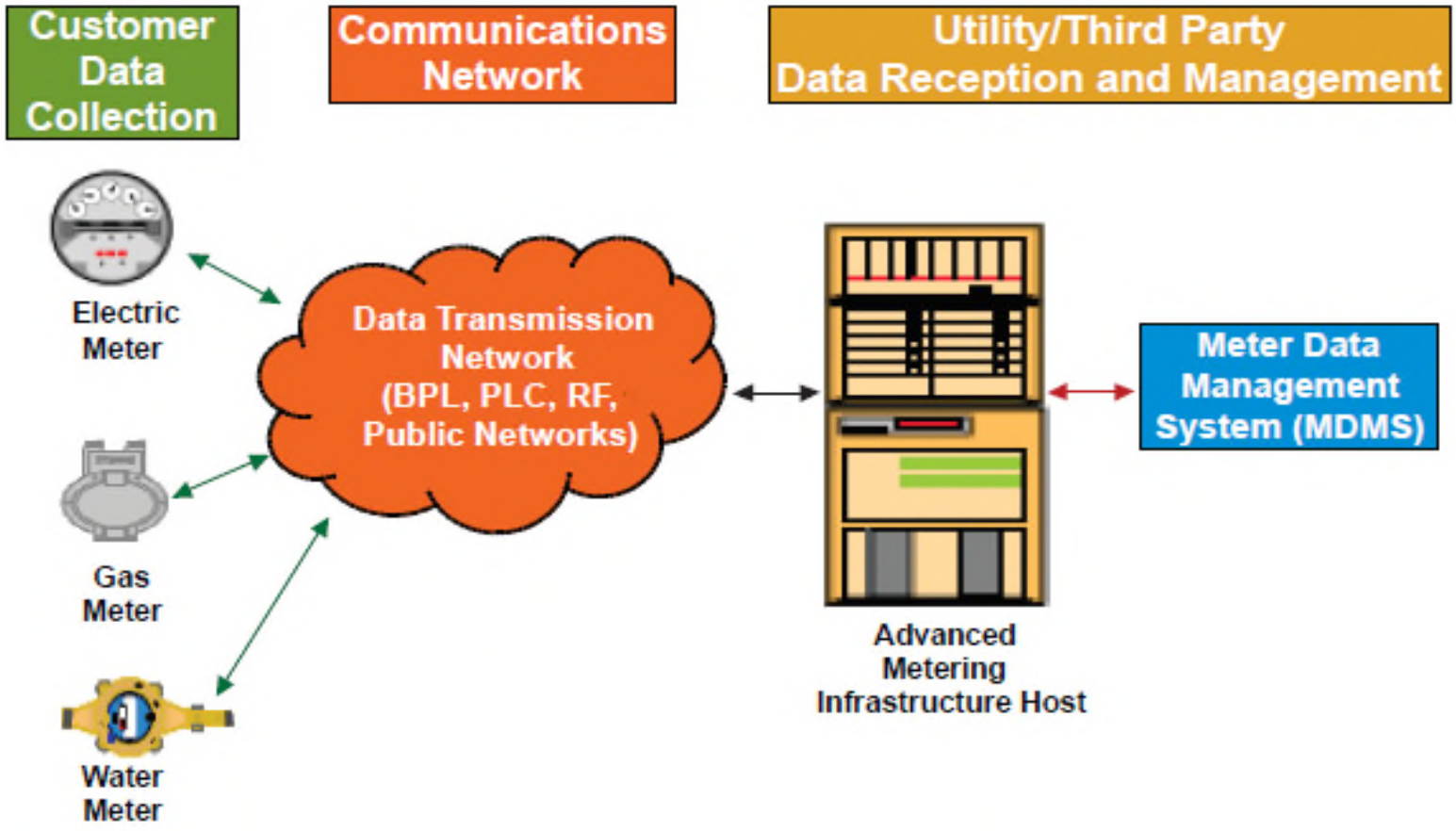
- Advanced Metering Infrastructure (AMI)
  - System Types and Components
  - Contracting Issues
- Wireless Facility Leasing/Licensing
  - Developments in Wireless Infrastructure
  - Contracting Issues

Advanced Metering Infrastructure (AMI) Systems

System Types and Components

What is an AMI System?

- AMI is typically used to refer to the entire measurement and communication system for metered services. This includes:
  1. Smart Meters at the customer location;
  2. Communication networks from the customer location to the data reception device in the field and on to the utility; and
  3. Data processing and storage systems



Source: Electric Power Research Institute

Smart Meters

- Several options
  - New all-in-one smart meter unit
- Or
  - Meter
  - New Register
  - Communications Device/Radio

This portion of the communications system is often referred to as a *node* or an *endpoint*

Data Transmission

- *Data Collector Units* (Think Cell Towers)
  - Collect data from smart meters (or nodes)
  - Transmit data to utility (radio and non-radio transmission options, including cellular (licensed) and unlicensed frequencies)

- Alternative for Advanced Meter Reading Systems:
  - Handheld data collectors (drive-by)

Data Reception and Use

- Think of a server/computer and then a collection of software tools to make the data useful to the utility

- Additional: Customer portal so utility customers can access real-time data

Types of Systems

- Advanced Meter Reading (AMR) System
  - Smart Meters plus Handheld Data Collectors - No communications network.
- AMI Systems
  - Entirely service-based
    - Third party owns equipment and makes it available as part of annual subscription fee.
  - Utility-owned hardware
    - Utility owns and installs all the hardware (including communications network) but third party maintains and operates it.
  - Utility-owned and operated system
    - Utility owns entire system. Utility maintains and operates the system with minimal third-party assistance.

Negotiating AMI Contracts

Before RFP

- Do a lot of research – speak to other local agencies about their experience, particularly similarly sized entities
- Decide which type of system you want
  - And what bells and whistles you want (e.g., leak detection and customer interface)
- Decide what equipment you do, and don't, want – consider prequalifying certain meters if there is a particular brand you do not like.
- Start board and customer engagement – are you planning to have opt-out, opt-in, or neither?
- Get legal counsel involved
  - Not just for drafting the RFP and prepping for negotiation, but also for:
    - Assistance with grant applications
    - Assistance with compliance with funding source
    - Assistance with compliance with the Public Contract Code and applicable local sourcing rules

The RFP

- Draft an RFP that very clearly lays out:
  - The type of system
  - The equipment specifications
  - The desired term (plus options)
  - What the utility will own
  - What the contractor will do
  - What the key performance indicators are

Keep in mind that it may not be possible to mix and match different vendor components

Reviewing RFP Responses

- Don’t be afraid to dismiss nonresponsive bidders
  - They will typically be more difficult to negotiate with down the road
- Be prepared to negotiate
  - Most (if not all) responses will identify deviations from the standard contract and the structure

Contract Negotiation Issues

- Master Agreement vs. Discrete Contracts
  - AMI contractors typically push a multi-agreement approach. Greater likelihood of conflicts that can cause serious problems.
  - Master Agreement approach advantages
    - Ensures consistency in
      - timing and commitments
      - terminology
    - Identifies a clear order of precedence for documents in the event of conflicts

Phasing

Consider phasing the project (and contract) to provide flexibility in case technology doesn't work out, e.g.,

- Pilot Phase
- Full Deployment
  - Installation Phase
  - Operational Phase

Pilot Phase

- Do not skip the pilot phase
  - While this will add to the time the system rollout will take, it is invaluable in ensuring the system works and for ironing out installation and set-up issues
- Key negotiation points:
  - Scope of pilot
    - How many endpoints? How long?
  - Trigger for Full Deployment
    - Hard trigger (utility decides)
    - Soft trigger (based on performance goals)

Indemnification and Limitations on Liability

- AMI contractors will seek limitation on liability and a limited indemnification
  - A clear RFP can help with this
  - If the agreement is phased, consider different provisions for different phases
    - i.e., if they're installing endpoints or meters at customer homes during installation phase, you will want stronger indemnification than you will for ongoing systems maintenance during an operational phase.
  - Don't forget IP indemnity (it's their technology)
- If contractor pushes caps on liability:
  - Avoid limiting it to the price of the contract (or amount spent under the contract); and
  - Negotiate carve-outs (e.g., personal injury, gross negligence or willful misconduct; third-party claims, etc.)

Term, Termination and Renewal Provisions

- Term - increasingly challenging issue due to technological uncertainty
- Contractor Termination
  - Consider how long it will take as a utility to find a new provider and transition systems and functions
- Utility Termination
  - Provide for termination following pilot phase.
  - Termination for convenience should be possible – consider phasing this
    - Once the system is fully installed, the contractor shouldn't be including onerous termination provisions unless the cost of installation is being spread over the life of the contract
- Renewal
  - Consider seeking an option for renewal with protected pricing and sufficient lead time to go back out to RFP

Acquisition of Endpoints

- Price Point
  - Are there certain authorized dealers?
  - Price protection for replacement or for later phases?
- Delivery and Insurance
  - Where will they be stored prior to installation?
  - Who bears risk of loss prior to installation?
- Warranty
  - How long? What is covered?
  - How do we determine if manufacturer is at fault?
  - Imagine every endpoint is defective – what would happen under the agreement?
- Ongoing maintenance
  - Will the district, installer, seller, or another maintain?
  - What happens if the endpoint is discontinued? Will you get an equivalent product?

Acquisition and Installation of Meters and Registers

- Replacement of all meters or just certain meters? Will lids or boxes need replacing? How many?
- Will meters be all-in-one smart meters or will meter, register, and endpoint be separate?
- Warranties
  - Replacement Period and Procedures
- Installation Services

Data Collectors

- Responsibility for propagation studies
- Who will own and maintain the data collectors?
- Who is responsible for siting?
- If Network as a Service, do you want a buy-out option for the data collectors?
- How do you phase that to account for depreciation?

Key Performance Indicators I

- Network coverage
  - How much of the network is covered by data collectors? 100% is necessary for operations
  - What are the remedies for failure?
    - Credits
    - Response times (ensure response times includes time to fix, not just time to start fixing)
    - Termination for chronic failure?

Key Performance Indicators II

- Read Success Rate
  - Does each endpoint connect on a given read? (97-99% is common goal)
    - Be very careful how this is defined in the agreement
      - E.g., Are certain endpoints excluded? What are the criteria for exclusion?
  - Remedies
    - Single endpoint repeatedly fails
      - Investigation of endpoint and remedy? (Usually connected to the endpoint warranty unless it's an installation problem)
    - System-wide problems
      - Credits
      - Response time
      - Termination for chronic failure

Key Performance Indicators III

- System Downtime
  - How much time the utility end system is down (or customer portal)?
    - This is usually less critical unless it's time to bill!
    - Incorporate planned outages for updating the software/firmware
  - Remedies
    - Response and fix times are critical here. Consider how long can you go without this data if the system goes down at the wrong time?

Software and Firmware

- What licenses are you obtaining for the use of the software to access and use the data?
- What happens upon termination?
- How is the firmware in the endpoints, the data collectors, the central server/computer, and any handhelds treated?
- Are upgrades and updates included? How do you distinguish between regular updates (that should be included) and new features (that may cost more)?

Training

- Will the contractor provide training?
  - How often?
  - For how many employees?
  - Where will training take place?
  - Is the cost of training built into the agreement or will it be extra?
  - Are reimbursements (for travel etc.) built in or extra?

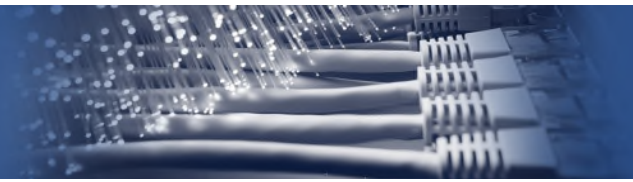
Miscellaneous

- Assignment Provisions
  - What if the company is acquired by a company you don't like?
- Confidentiality Provisions
  - Be careful not to agree to more secrecy than you can offer under California's transparency laws
- Compliance with Laws
  - Make sure the contractor is responsible for compliance with environmental and labor laws
- Choice of Law
  - Make sure California law and courts (may be more difficult for standard warranties and licenses)

Key Takeaways

- Research, research, research
- Pull a team together
- Know what you want before you go out to bid
- Investigate funding options and make sure you comply with any grant requirements as you proceed
- Be willing to walk away from any particular contractor
- Pay close attention to warranties
- Negotiate for key performance indicators
- Figure out what would happen if key components fail. Who will you turn to? Who will you sue?

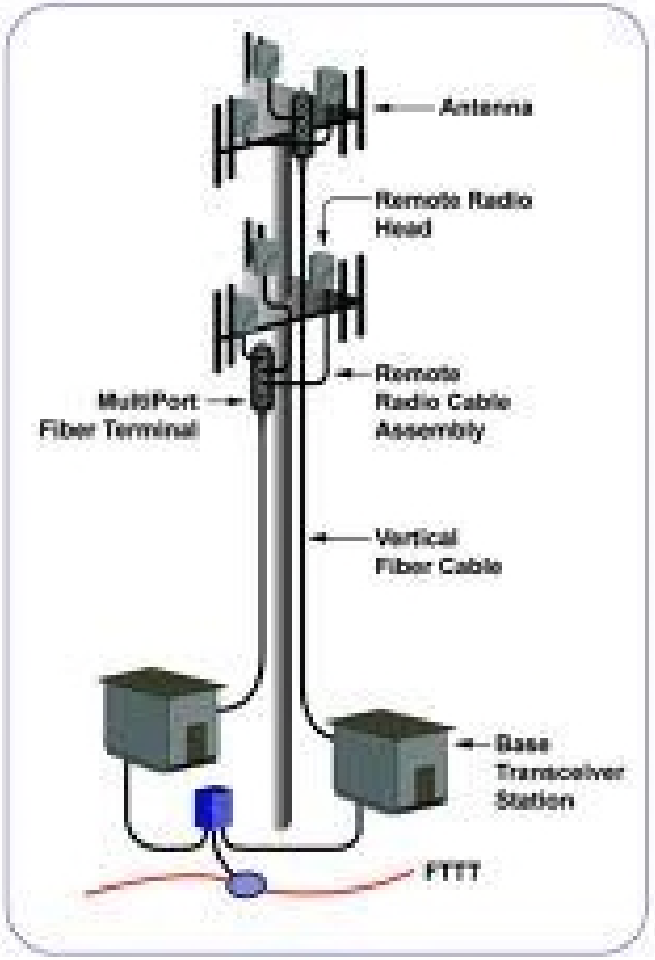
Wireless Facility Leasing and Licensing



Developments in Wireless Infrastructure

Basic Components

- Antenna(s)
- Equipment
- Connecting Cable(s)
- Support Structure
- Power Source (Meter/Battery)
- Backhaul (wired or wireless)



Types of Facilities – Glossary

- **Macrocells**
  - high-powered antenns designed to serve a large area from a single site. Macrocells are often placed on monopoles, or guyed or lattice towers. Towers may be owned by one entity and shared by many providers.

  Small Cells
  - Small cells are low-powered versions of macrocells. Small refers to area covered, not size of facility. Typically these are placed in public rights of way on utility poles, street lights or standalone poles.
- **Distributed Antenna Systems (DAS)**
  - A network of antennas (nodes) connected to a common source (a hub) via a transport medium (often fiber optics) that provide wireless service within a specific area or building.
- **LoRaWAN™ Networks**
  - The LoRaWAN specification is a Low Power, Wide Area (LPWA) networking protocol using unlicensed frequencies – developed for Internet of Things applications

Typical Facilities at Water Sites

- Tanks, towers and rooftops

Wireless

Overview

- Demand for wireless data services requires “denser” networks – more antennas
- SNS Research: “significant shift in investments towards small cells, C-RAN, DAS and carrier Wi-Fi infrastructure. By 2020, these four submarkets, together with their fronthaul and backhaul segments, will account for over 50% of all wireless network infrastructure spending.”
- Billions expected to be invested in infrastructure, creating $80 billion market for LTE by 2020
- Public property, including public rights-of-way a major target for deployment

Wireless

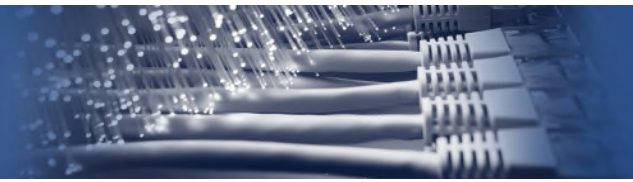
Industry Players

- Entities that market wireless services to end users (Verizon Wireless, T-Mobile, etc.) traditionally using FCC-licensed frequencies) These entities may provide service *and* own wireless facilities. Most have become tower space renters.
- Entities that build wireless towers, lease space to service providers (American Tower, SBA, Crown Castle)
- Entities that build small cells and DAS and provide "backhaul" of signals (portion of facility may be owned by provider) (ExteNet, Mobilitie, Crown Castle)
- Entities with wireline networks that may provide IoT services via unlicensed frequencies (Comcast MachineQ)

Regulatory Threats

- Federal and state efforts to limit local regulatory authority over wireless siting and ensure public property available for deployments
- FCC's *Wireless Infrastructure Proceeding (2017)* is investigating*:*
  - *what constitutes a "proprietary capacity"*
  - *to what extent can existing federal statutory provisions apply to states and localities acting in a proprietary capacity (as managers of land or property that they own and operate primarily in their proprietary roles) versus in a regulatory capacity (when acting in their capacities as land-use regulators)*
  - *whether the FCC should reaffirm or modify its prior determination characterizing the distinction between local regulatory roles versus their proprietary roles as "owners" of public resources*
- Depending on how the FCC answers these questions, this may lead to efforts to regulate special district property including limiting the ability to say no to wireless tenants on water tanks/property, the imposition of strict timelines to act on requests for access, and perhaps even limitations on the rental rate for such use.

Contract Negotiations for Cell Sites

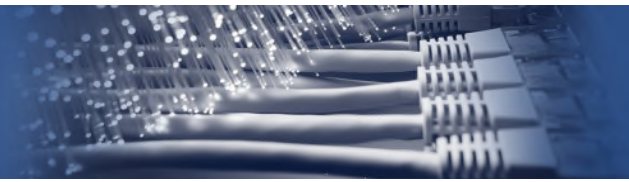


Control the Drafting Process

- Avoid Using Anyone Else's Standard Form – Develop Your Own
- WHY?
  - Wireless carriers' standard forms are one-sided.
  - Substantial legal fees in editing (may be recoverable)
- Developing and Using A Standard Form Saves Time And Helps Avoid Overlooking Issues

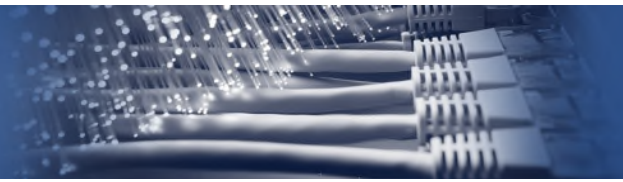

Premises & Grant of Authority

- Include An Exhibit With Legal Descriptions, Drawings And/Or Photos
  - The more detail you have, the easier it is to police the agreement, especially regarding unauthorized collocations and subleases
- Control Signage, Conduct and Look
- Address Use Of Common Areas and Access Points



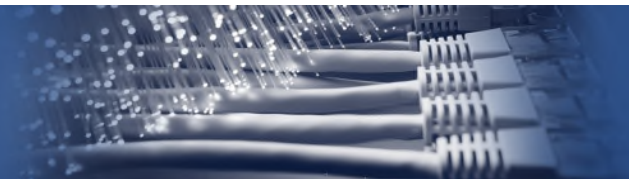
License/Lease Not Easement

- Granting An Easement May Be Granting Others Access To Same Property.
- License Is All The Legal Authority A Wireless Carrier Needs.
- Lease Structure Is Also An Acceptable Alternative (But Grants Exclusive Use, Not Shared Use).



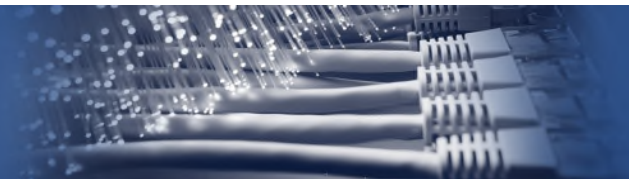
Term

- For Wireless Sites, Typically Series Of 5 Year Terms – 20 To 30 Years Total.
- Strategic Decision Re Auto Renewals Or Affirmative Notice Required.
  - If notice is required, keep a database of renewal dates.
  - Make sure that tenant in breach is not entitled to automatic renewal.
  - Impose significant hold over fee so as to ensure tenant does not benefit from refusal to negotiate



Options, Due Diligence, Construction Periods

- Try Not To Give This Time Away For Free.
- Beware Of “Options To Lease” Or Long “Due Diligence” Periods Tying Up Sites With No Guarantee Of Rent.
- Avoid Long Delivery Or Construction Periods For Permitting With No Rent – Begin Term Immediately And Add Construction Period To Overall Term.
- Limited Time In Which Wireless Carrier Has To Obtain Legal Clearances And Ensure That Site Works For Them.
- Require Indemnity And Insurance For Any Activities On Site By Licensee/Consultants And Require Prior Consent For Any Borings: Require Copies Of Any Consultant Reports Be Provided To You.

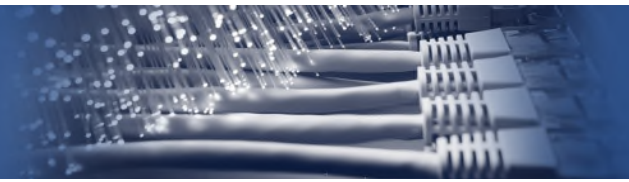


Rent/License Fee

- **Basic Fee**
- **Collocation Fees (or address in future consents)**
- **Late Fees, Interest And Hold-over Fees**
  - Late fees are what you can get. (Ensure that you provide safe harbor referencing any state law cap.)
  - Interest limited by law (be sure to include savings clause to avoid usury claim).
  - Hold-over rent should be in the range of 125% to 150% of then-current rent.

Wireless Site Base Rent

- Rent: Broad range
  - $1.5k Per Month To $5K + Per Month
  - Offer A Direct Deposit Option.
- Carriers Typically Offer Low Escalators – *E.G.*, 15% Every 5 Years – that is not the same as 3% per year.
- Try For 4% -- But It Must Be On Annual Basis.
- Consider CPI With A Floor Of 3.5% (Might have to offer a ceiling Of 5%.)

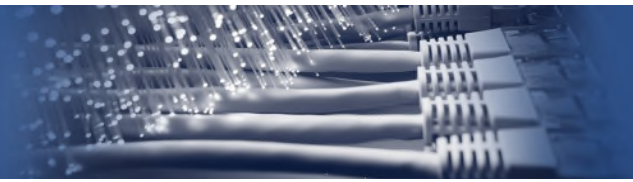


Assignment

- **Require Landlord Approval**
  - Wireless carriers usually want to be able to shift sites to related corporate entities without landlord approval.
  - Beware of assignments to “affiliates,” tower operating companies.
- **No release of original entity for certain clauses – hazardous and insurance issues**

Assignment or Subletting

- No Sublicensing Without Permission.
- Landlord Should Retain Ability To Consent To Any Proposed Sublicense That Involves The Collocation Of Another Carrier's Facilities.

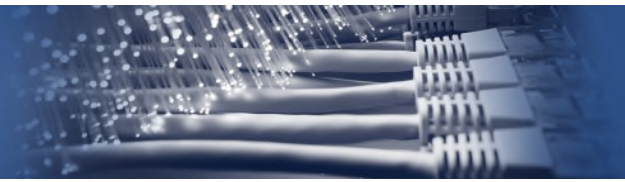


Primary Purpose

- Protect your primary operations
- Temporary relocation when you need to do repairs, repaint tanks, etc
- Possible early termination or permanent relocation when you need the space for your own operations

Interference

- Ensure That You Do Not Cause Any Challenges For Any Existing Tenants
- Ensure That Subsequent Tenants/Collocators Do Not Cause Interference
- Burden Is On Newcomers To Cure Interference Caused By Their Arrival (Not Existing Users)
- Be Sure Licensor/Landlord Is Not Responsible For Interference Or Cure

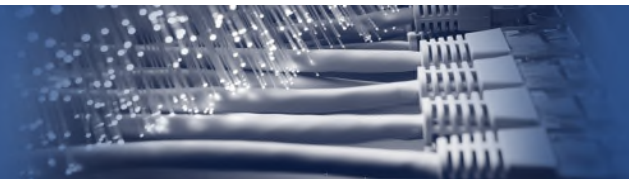


Improvements

- Detailed Plans With Prior Approval
  - Avoid agreeing to “approval not to be unreasonably withheld, delayed or conditioned …”
  - Control appearance of improvements
- All Work By Licensee Shall Be Performed In Compliance With Applicable Laws, Codes/Standards And Ordinances.
- Licensee Is Not Authorized To Contract For Or On Behalf Of Licensor Or Impose Any Additional Expense. (i.e. Utilities)

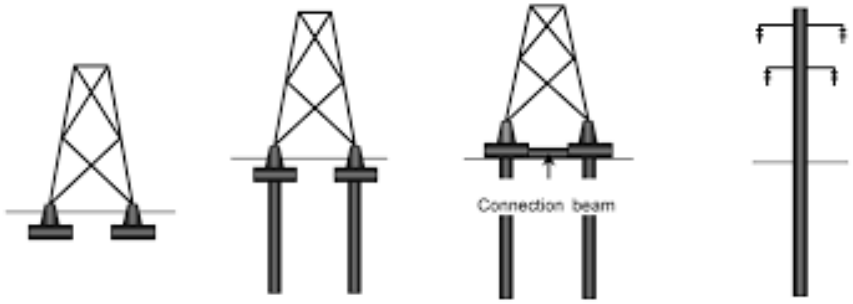
Improvements & Utilities

- Be Sure Improvements Will Be Maintained And Upgraded To Comply With Laws, But Any New Installations Must Not Be Heavier, Greater In Capacity Or More Space Than Originally Granted.
- Licensee Pays For Utilities; Licensor/Landlord Not Responsible For Any Interruptions.
- Do Not Agree To Allowing Licensee To Use Your Electric Connection With A Submeter.



Removal of Improvements

- **How To Handle Removal May Depend On Facility**
  - Immediate ownership (*e.g.*, of light pole).
  - Automatic conveyance of ownership to licensor
  - Option for licensor to retain improvements or require removal
  - Require removal of footings and foundations

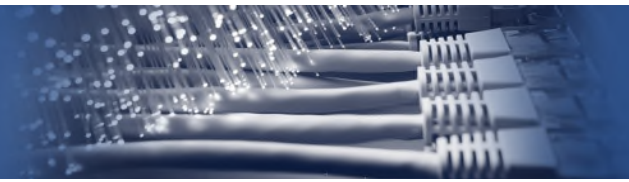


Limit Access

- **24 Hour Notice**
- **Escort Necessary?**
  - But be careful about costs
- **Conditions For Emergency Access**
- **Build in flexibility to change requirements if need arises**

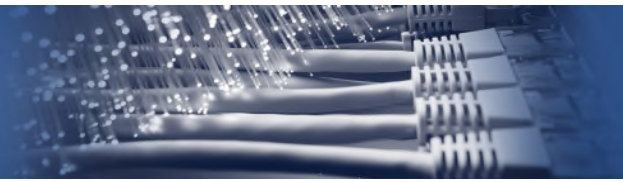
Access Rights/Security

- **Varies by type of installation:**
  - Limit access to certain specific areas
  - Limit size, weight and frequency of access to roof
  - If installation across private or limited access land, limit access and protect fencing, private or municipal property or animals
  - Make sure you don’t grant rights you don’t have
  - Put burden to maintain secure fencing on licensee



Events of Default / Termination by Licensor

- Non-payment By Tenant
- Habitual Late Payments From Tenant
- Violation Of Any Term, Including Non-permitted Collocations
- Don’t allow autorenewal if in default



Termination by Licensee

- **Carefully Define When Licensee Can Terminate.**
- **Wireless Carriers Want Ability To Terminate For "Technological, Economic, Or Environmental" Reasons.**

Please Don't Accept

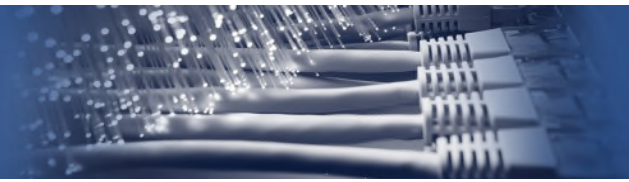
- **Either Prohibit Terminations Or Require Payment (*E.G.*, Rent For Remainder Of Term Or 12-24 Months Of Rent).**

Casualty/Insurance/Indemnity

- Make Sure To Run By Your Risk Assessment Folks
- Typical Insurance Is General Liability, Auto Liability, Employer's Liability, All-risk Property, And Workers' Comp.
- Make Sure Insurance Requirements Apply To Contractors And Subs
- Don't Accept Reciprocal Indemnity

Taxes

- **Make Sure It Is Clear That Taxes Due Are In Addition To Rent.**
- **Address Possessory Interest Tax (Revenue And Taxation Code 107.6) Liability For Licensee.**



Hazardous Substances

- **Strict Language To Prohibit Any Such Uses.**
- **Batteries For Back Up And Generators Can Trigger These Terms.**
- **Check With Your Environmental Folks For Most Recent Terms – Pay Special Attention That These Substances Do Not Prejudice Your Ability To Reuse The Site Or Co-use.**

Best Practices
How to Police Your Lease

- **Regular Site Checkups**
  - Carriers seek forgiveness more often than permission
  - Take photographs, measure site boundaries
  - Audit revenues/usage by 3d parties
- **Monitor Site Access**
  - Reasonable in/out records esp. important for rooftops
- **Keep Your Correspondence**
- **Keep Tabs on Permit Applications**
- **Get Advice from Counsel/Experts**

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