

MAY 2008

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UtiliSite conference

Test equipment for cell sites

Rapid DAS installation

New York trade show

Curbing workers' compensation costs

Product showcases
test equipment
backhaul

Louisiana-Mississippi State
Wireless Association

FCC & Migratory Birds



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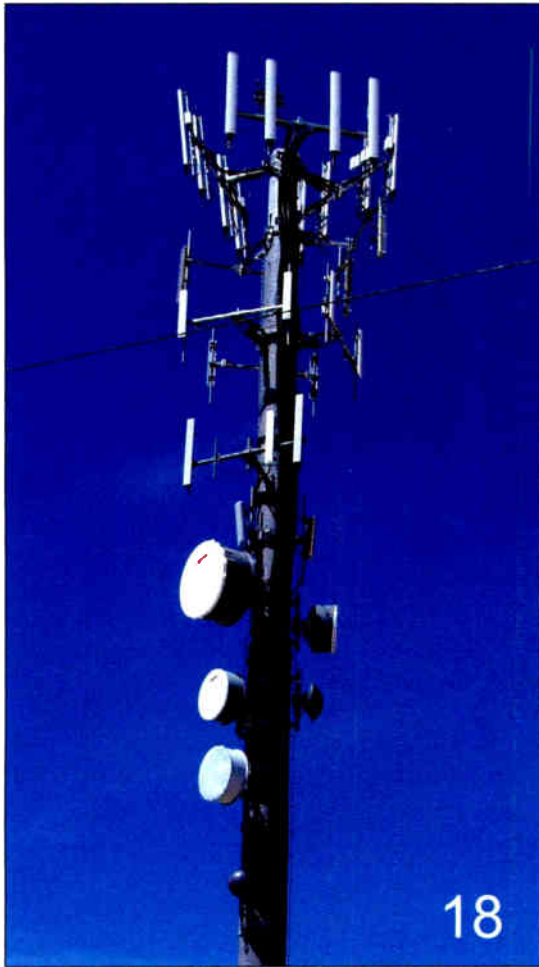
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AGL Report

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Clark Braud

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John Spindler

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AGL Report

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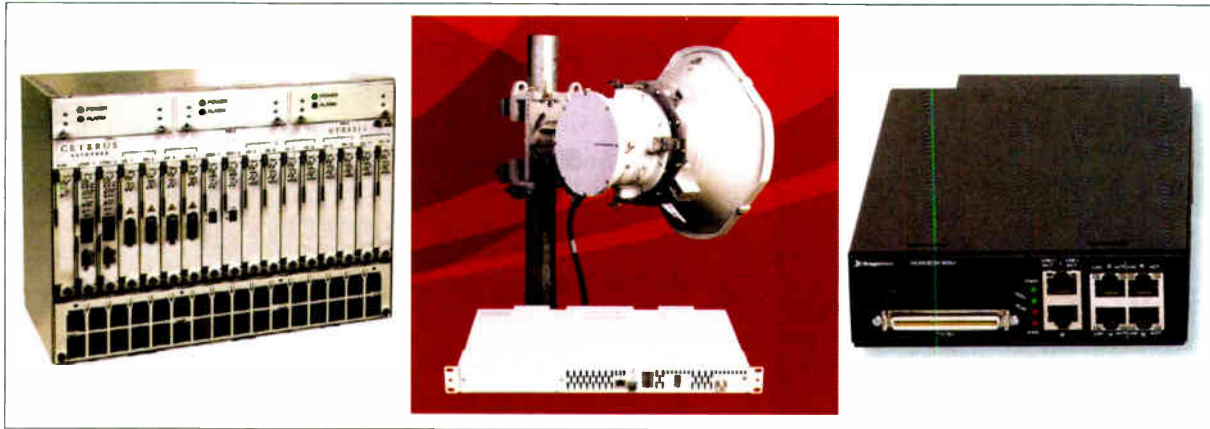
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AGL Report

The New York State Wireless Association became the first among 20 such associations to conduct its own trade show when it hosted a daylong convention on March 20.



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on the cover

Designed primarily to support Culpeper County's Motorola 800 MHz simulcast trunked radio system, this 360-foot guyed tower also offers space to commercial wireless vendors. Erected in 2001 by Sabre Towers and Poles, this tower is owned by the county's board of supervisors and is located in Rixeyville, VA.

Photo courtesy of Rick & Leslie Eley Photography

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Thanks for the Flack

I received more negative feedback in the form of advice from publishers and people in the industry for my saying good things about a competitor than I expected. Last month, I pointed out the good work of MRT magazine. This month's compliment goes to IMAS Publishing, now owned by



NewBay Media, and the company's publication Radio World. If you are a broadcaster, you probably receive IMAS publications such as that and TV Technology and love them – just as I do. AGL is all about towers, the tower industry and technology that affects tower siting, plain and simple.

Radio World fooled me this year. Every year they run an April Fool article in the April 1 issue, and this year I forgot the tradition. When I read the April Fool article, about a virtual antenna, I started out believing it. The article included a mathematical formula and a tower diagram, and I started reading. The idea behind the antenna sounded possible, and if you are only kind of paying attention as you read, it could sound plausible. By the time I was reading the third column of text I found that the facts did not add up, and I realized I'd been had. Hats off to them for having fun, at least once a year.

Wow – This is kind of interesting: read this article in Wireless Week: <http://www.wirelessweek.com/ATT-OK-with-Android.aspx>.

If you are enough of a nerd to follow the fight over open wireless networks, than this is important. The consumer device is about to let you decide which network you should be on, and thus which carrier should get your business, on an almost real-time basis. No coverage from one carrier? Fine. I'll be an AT&T customer – for an hour or two. Verizon has better

coverage, but for \$1 an hour, while Cricket can do the same thing in your area for 75 cents. Fine. I'll go with Cricket – this hour. (All theoretical examples, of course.) So the networks are about to compete on coverage, capacity, and technical issues on an *hour-by-hour* basis, not on the year-at-a-time, \$175 early cancellation fee model we have today. I predict it will result in additional lease-ups, as carriers get ready for a "we are better" fight.

Now the serious half of my diatribe. CTIA. I'm on the plane on the way back, but that seemed like a very serious show – WiMAX is clearly going to be the next generation "thing" and is going to come in many flavors and colors and will be a standard we need to get to know. It may not be deployed yet – Xohm has issues as does Clearwire and a few others, but remember to separate the company from the technology. At least, I have to separate them because I happen to like the Xohm idea and many of the people who work there. Regardless of what spectrum is currently licensed or becomes available for deployment, WiMAX is going to be a dominant – not exclusive – technology that will be on our sites. Get smart on it.

Another fun thing going on is the FCC's pending change in the AM detuning rules. We expect the FCC to release the rule in the next 45 days and after being published in the Federal Register, it will be law in another 30. Expect major changes in AM detuning around July 1. If you're not up to date, read three AGL articles I wrote on the topic that are available here: www.waterfordconsultants.com/compliance.asp. Disclaimer: I'm the principal of this magazine and a partner in Waterford consultants.

I've also been thinking of the backup power requirement. At CTIA, I conducted interviews about fuel cells and will be writing an article about them for the July issue. Do you have a question about fuel cells? Please drop me a note sometime soon, and I'll try to make sure it gets answered.

You know where I am, so drop a note, good or not so good – either is OK. We love to hear what is on your mind. **agl**

by Rich Biby, Publisher
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Real Money

When you're talking \$19 billion, you're talking real money. That's what numerous winners in the FCC's Auction 73 for spectrum in the 700 MHz band committed to delivering to the U.S. Treasury.

Although it is debatable whether spectrum auctions benefit U.S. taxpayers to any significant degree, they at least offer the federal government a way of



parceling out the spectrum that takes less of the agency's time than, say, comparative hearings or lotteries.

The question for tower owners is whether spectrum winners will use existing antenna space that tower owners make available for

rent, whether spectrum winners will require the construction of new towers, and in what proportion of those two alternatives will any new antenna space rental business be derived?

Although exuberance among tower owners about the auction outcome has not become evident, neither has pessimism – at least, neither has emerged in excess. The chief operating officer of a large tower consolidator said that his company's leases with carriers are frequency and equipment specific. He said his company has worked with carriers as they moved from one frequency band to another before, and it would do so with the new band. He said the company would not try to tap into the carriers' new revenue streams "entirely," but that with their new spectrum opportunities comes equipment growth.

A senior vice president with another consolidator said his company is cautious about what will happen at 700 MHz, although he expects new systems will be built out. He said his company knows the "who," thanks to the auctions, but doesn't

yet know the "what, where and when" of potential collocations and new construction. He said his company is talking with the auction winners to work with them when they plan their networks.

An engineering director with a general contractor said he did not expect a huge buildout on 700 MHz in large part because existing network operators AT&T and Verizon purchased the bulk of the paired frequency bands suitable for two-way wireless communications services – as opposed to an unpaired frequency band that would lend itself to mobile TV service. He forecast a lot of new technology overlay work using existing sites and not much new site construction, especially in view of the fact that 700 MHz signals tend to travel farther than those at higher frequencies now in use. In-fill sites would not be necessary when new technology is overlaid on existing sites, he said.

But he added that perhaps the two large carriers would not use the frequen-

cies to add much more in the way of capacity and services, expressing the opinion that part of their purchase decision was to keep competition out.

An executive with another general contractor disagreed, saying that the \$19 billion spent provides an incentive for the spectrum winners, including AT&T and Verizon, to establish coverage quickly and begin obtaining a return on their investment. Similarly, though he said he expects most of the 700 MHz deployments to be collocation, rather than new builds.

A director of real estate operations for a smaller carrier that was not among the Auction 73 winners said his company is on track to double its number of sites "in the next couple of years," to 10,000, in the deployment of its network in another frequency band.

Watch for more details in future issues about the effect of the 700 MHz spectrum and the new technologies it will bring to the wireless infrastructure industry. **agl**

Picture of the Month:



Kairo Calabretta, age 10, won 2nd place in the Pennsylvania Chester County Homeschooler's Science Fair for his RF/stealth experiment which tested the transmission of radio waves through 10 different building materials ranging from wood and cinder block to plastic and rubber. Congratulations Kairo! Be sure to submit your resume to AGL in a few years.

by Don Bishop, Exec. Editor
dbishop@agl-mag.com



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State Legislative Update

by Jacqueline McCarthy, esq.



PCIA's Government Affairs Team pursues targeted opportunities to promote wireless deployment, and to encourage collocation on shared infrastructure, through the enactment of state siting legislation. This legislation standardizes the zoning approval process across municipalities, and limits the ability of jurisdictions (and their consultants) from imposing unreasonable delays or excessive fees on zoning applications for wireless facilities. Both the American Legislative Exchange Council and the National Conference of State Legislators endorse PCIA's model legislation as a balanced approach to wireless siting.

Initial contact

We are pursuing state legislative initiatives in cooperation with chapters of our State Wireless Association Program and through a broad coalition of industry stakeholders in local communities. Our method for pursuing this legislation relies upon a "legislation life cycle" approach, which identifies states in which siting legislation can be (a) planned, (b) enacted or (c) publicized after enactment.

The post-enactment publicity and outreach stage is critical to ensure the practical benefits of the siting legislation

In the planning stage, we initiate contact with the relevant state wireless association and work with the wireless community to establish the broadest possible coalition of industry stakeholders. We also identify likely proponents, including legislative sponsors, and strategize on how

to neutralize or respond to opposition. Currently, we are engaged in planning for state legislation in Georgia, New Jersey, New York and Missouri, for example.

In the enactment stage, we actively promote the legislation in the state legislature, with the help of local contacts. In the 2008 legislative session, the enactment process for state legislation is underway in Alabama and South Carolina. In these states, this process could not occur without the dedicated involvement of the relevant state wireless association – in this case, the Alabama Wireless Association and the Carolinas Wireless Association. The leadership of both state associations has been instrumental in the consistent and sustained effort necessary to motivate legislative sponsors and committees, and to address opposition, which is often quite well organized and influential.

Outreach

The post-enactment publicity and outreach stage is critical to ensure the practical benefits of the siting legislation. In states North Carolina, Florida, California and Tennessee, for example, we are working with the state wireless associations and state chapters of planning, legal and local government associations to promote the new law and to provide tools for jurisdictions to comply with the law, e.g., model zoning ordinances that comply with the siting law.

Of course, state legislatures often pursue initiatives that threaten the goals

PCIA speaks out

Ohio – extended local jurisdiction

Tennessee – onerous design standards

Maryland – public school prohibition

Minnesota – coverage maps

Washington State – wireless basics

of the wireless infrastructure industry. Through our active network of contacts across the country, PCIA has become an active voice against burdensome or unreasonable legislation. Examples from this year include:

Ohio — House Bill 84 extended notice requirements to almost a half-mile radius around the proposed facility, and extended township zoning jurisdiction to many sites in unincorporated areas. PCIA and the Ohio Wireless Association commented on how this extension of municipal jurisdiction was unreasonable and made siting more time-consuming and difficult, and the House sponsor agreed to table the bill indefinitely.

Tennessee — Senate Bill 3370 and House Bill 2474 placed onerous design standards and review processes (requiring public hearings for all sites, including modifications and collocations) on wireless siting applications. PCIA and the Tennessee Wireless Association, along with local experts with extensive legislative contacts, convinced sponsors on both sides that such actions were inappropriate for a state legislature, and that the local zoning process provides the authoritative process for siting approvals.

Maryland — Senate Bill 379 proposed an outright prohibition of wireless facilities on any public school



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property in Baltimore County. Through written and in-person testimony, PCIA and the MD/DC Wireless Association expressed opposition to the bill, which would remove a broad class of attractive subject parcels from contention for leasing. Similar efforts regarding Montgom-

ery County were afoot elsewhere in the Maryland General Assembly in late 2007, and similarly, PCIA, the MD/DC Wireless Association, and the local wireless community came together to combat the legislation and prevent it from moving forward to committee.

Minnesota — House File 635 required carriers to publicize their coverage maps, not only to existing customers, but also to prospective customers and the general public via retail locations and their websites. PCIA strongly opposed the measure, asserting that coverage maps are constantly updated and hence would become inaccurate almost immediately, and that enacting policies more friendly to wireless deployment would be a more appropriate way to ensure better coverage for Minnesota citizens.

Washington — The House Technology Committee held a workshop in February to understand the basics of wireless siting. PCIA and other industry representatives presented information on RF emissions, the current case law on what jurisdictions can and can't regulate pursuant to the Telecommunications Act of 1996, and the societal benefits of a more balanced approach to wireless infrastructure siting.

Clearly, state legislatures are a fertile ground for both opportunities and threats to our industry. We will continue to focus our advocacy efforts on these legislatures to enable the wireless future through policies that encourage robust deployment. Please join us in this effort by contacting the PCIA Government Affairs team at 703-739-0300. **agl**

Jacqueline McCarthy, esq., is director of government affairs at PCIA – The Wireless Infrastructure Association, Alexandria, VA.

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<p>Light Tower Holdings, LLC has acquired 7 towers in the M/C Venture Partners & Wachovia Capital Partners \$290,000,000</p>	<p>Southeast Towers, LLC has converted 15 PCS licenses in Alabama and Georgia to towers in totaling 180 towers Diamond Communications, LLC</p>	<p>Harbor Wireless, LLC has converted certain 700 MHz licenses representing approximately 11,700,000 AT&T Mobility II LLC</p>	<p>Capitol Broadcasting Inc. has converted certain 700 MHz licenses representing approximately 4,800,000 pops AT&T Mobility II LLC</p>	<p>Windstream Corporation has converted certain 700 MHz licenses representing approximately 1,100,000 pops AT&T Mobility II LLC</p>
<p>Millennium Telecomm LLC has converted 19 towers in Minnesota and Wisconsin SBA Towers II LLC</p>	<p>ALBS Wireless Services, LLC has converted 17 towers in Illinois Diamond Communications, LLC</p>	<p>Horvath Towers, LLC has converted \$8,000,000 in equity capital Peppertree Capital Fund, LP</p>	<p>Whidbey Telephone has converted certain 700 MHz licenses representing approximately 279,000 pops MTA Communications, Inc.</p>	<p>Whidbey Telephone has converted certain 700 MHz licenses representing approximately 1,000,000 pops United States Cellular Corporation</p>
<p>Tower Site Solutions, LLC has converted 7 towers in Georgia and South Carolina Optasite, Inc.</p>	<p>CitySwitch LLC has converted certain tower assets in Georgia and Indiana SBA Towers II LLC</p>	<p>Horvath Communications, Inc. has converted 9 towers in Indiana and Ohio Optasite, Inc.</p>	<p>Big Bend Towers, LLC has converted certain tower assets in Florida and Georgia SBA Towers II LLC</p>	<p>Eastern Shore Wireless Company, LLC has converted PCS licenses in Maryland representing approximately 195,000 Pops Verizon Wireless</p>
<p>Tower Acquisition has agreed to convert certain tower assets SBA Towers II LLC</p>	<p>Independence Media Holdings has converted 3 towers in Illinois Optasite, Inc.</p>	<p>Master Towers, LLC has sold one tower in Eugene, OR SBA Towers II LLC</p>	<p>4253311 Canada Inc. has converted its WCS licenses NW Spectrum Co.</p>	<p>TriCo Wireless PCS, Inc. has converted certain PCS licenses in Missouri representing approximately 414,000 Pops Nsigthtel Wireless, LLC</p>
<p>Highland Cellular Holdings, Inc. has converted certain PCS licenses in Ohio representing approximately 400,000 Pops Centennial Communications Corp.</p>	<p>Leap Wireless Liquidating Trust has converted its PCS licenses in Florida, CA representing approximately 324,000 Pops Commnet Wireless, LLC</p>	<p>TriCo Wireless PCS, Inc. has converted its PCS license in Missouri representing approximately 194,000 Pops Crossroads Wireless, Inc.</p>	<p>TriCo Wireless PCS, Inc. has converted certain PCS licenses in West Virginia representing approximately 180,000 Pops Verizon Wireless</p>	

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Reducing Workers' Compensation Costs

by David Saul, AAI

Are you looking for ways to reduce your Workers Compensation costs? Going back to the basics in establishing and managing safety programs allows you to control your premiums through minimizing your losses.



Unfortunately, even the best loss prevention efforts cannot guarantee against workplace injuries.

While safety programs contribute greatly, aggressive disability management programs can also help you control your workers' compensation claims costs once an accident occurs.

Contracts may ensure that liability for injuries extends to subcontractors and contractors

First and most importantly, the only way companies really control workers' compensation costs is to convince all involved that controlling cost is worth the effort. Companies that have made the greatest strides did so because everyone focused on the importance of safety.

Your internal strategy – which centers on preventing claims – is much more important than shopping for a higher dividend.

If you don't have a company policy on *modified duty*, you're at a distinct disadvantage. It is an important practice that needs a comprehensive approach. The most successful Return to Work Program can accommodate almost any restriction.

Establishing a policy

As a part of your corporate culture, you should establish a return to work policy. Studies have shown that the longer an injured employee remains off work, the less likely the employee is to return to work.

- Educate employees and supervisors on your return to work policy and expectation.
- Establish open lines of communications with a local occupational medicine clinic.
- Invite the physician and staff to tour your facilities and review your return to work policy along with your modified job duties.
- On-site physical therapy and work hardening programs present several advantages by incorporating all aspects of the injured employee's regular job to speed the recovery time. The employee will be productive and visible for management to monitor their progress.

- Establish open lines of communications with injured party. Express concern and expectations in regard to recovery.
- Consider implementing a safety incentive bonus program. Focus on reward for safe behavior.

Your classification codes, experience modification, sudden company growth, or company acquisitions can affect your premiums. You should know the effect each has upon your overall workers' compensation pricing.

Orienting and training your employees is a crucial step in promoting a safe work environment. How you train and encourage your new employees in safe working practices will determine your insurance costs in the near future. During orientation, you'll find that many employees resist asking questions. To counter this reluctance, you, the employer, should use checklists and fill any gaps by explaining, in detail, what you expect of new employees.

Elements of a Return to Work Program

Promote the policy and expectation.

Communicate with an occupational medicine clinic.

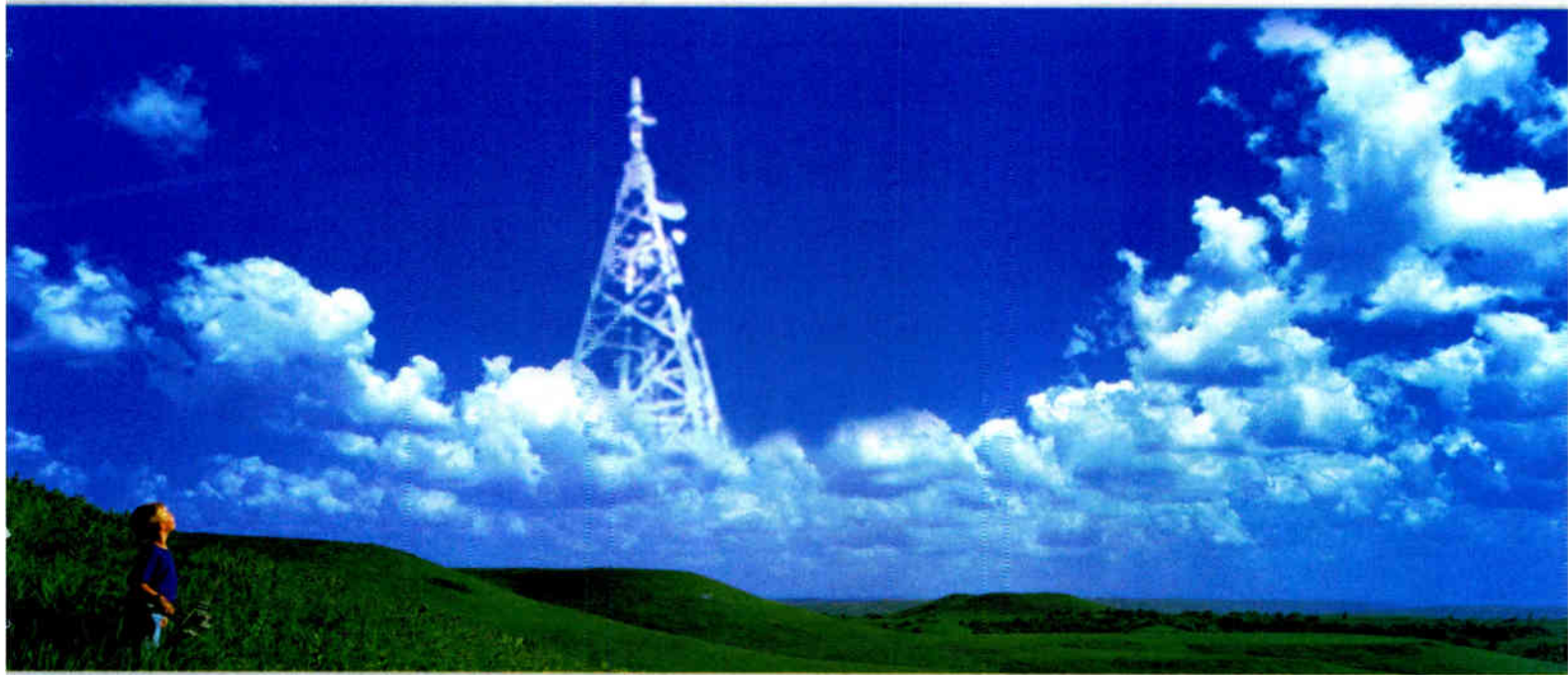
Invite clinic staff to review your policy.

Use on-site physical therapy and work hardening programs.

Communicate with the injured worker.

Focus on reward for safe behavior.

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Statistics reveal that for every week a claims goes unreported the cost increases dramatically – as much as 50 percent

At the end of the training course, ask new employees to sign the checklist to confirm that they understand and have been instructed in the company's safety procedures. This signed checklist

should become part of the employee's permanent record.

If you don't have safety policies, then develop and use them. Most companies have written disciplinary procedures that fall short when it comes to using them.

Review your claim information – do the same people and injuries show up from year to year? If so, are your employees properly trained and do they understand disciplinary procedures?







As mentioned before, insist that claims are reported immediately. Statistics reveal that for every week a claim goes unreported the cost increases dramatically – as much as 50 percent. When employees delay reporting an injury, find out why. Then turn to your policy statements and use the necessary disciplinary procedures on record. Your goal is to get employees to report injuries, not to judge whether an injury is important enough to report.

Even after a claim is paid, the incident is not over until you discover its cause. While one injury is behind you, others will take its place unless you do something to reduce the chance of the incident reoccurring. Assign the task of correcting the problem to your safety committee, supervisors, or managers, and then ask for proposed corrective action.

Note: Always ask the injured employee how the injury could have been prevented. And do so while the event is still fresh in the employee's mind.

Do your research. Check out OSHA's web site at www.osha.gov, or ask your insurance representative for related information. Your insurance representative can help you develop a safety programs tailored to your needs. Call them, they have the expertise and resources to help you find and close your costly safety gap. **agl**

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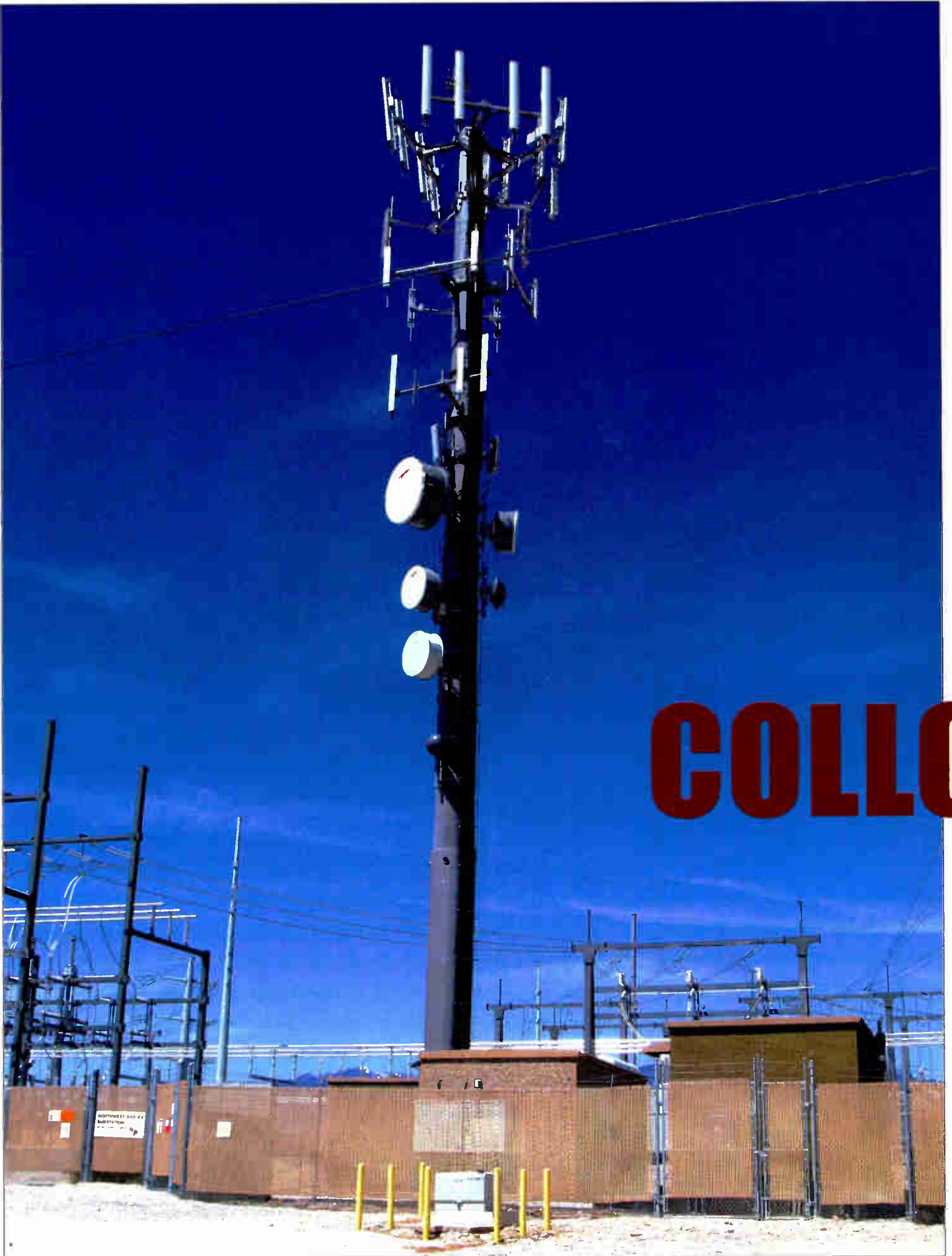
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UtiliSite Council's first conference for utility companies and wireless carriers focused on what it takes to build a successful telecom antenna site collocation business using real property and infrastructure owned by utilities.

by Don Bishop



The Fairmont Hotel in Dallas entertained delegates to the first collocation conference hosted by the UtiliSite Council.

Summit Draws Utilities for COLLOCATION CONFAB

UtiliSite Council, formed only a year ago, conducted its first national conference March 5–7 in Dallas at the Fairmont Hotel. The 2008 Utility Wireless Collocation Summit drew an estimated 50 participants to conference and networking sessions. Allen Garrison, UtiliSite chairman, said representatives of most of the council's member companies attended, along with representatives of prospective new members.

UtiliSite represents utilities with space to rent – utilities call it “licensing” the space – for antennas used by wireless telecommunications carriers. Most of the space made available by utilities is found on towers and poles built to hold

wires that carry electrical power and on monopoles built on electrical substation property for the specific purpose of supporting antennas.

Karnel Thomas, vice president of member services at United Telecom Council, an affiliate of UtiliSite, said the utility infrastructure is valuable to carriers because the cost to build their own sites in some of the places where utilities already have infrastructure would be overwhelming. “It’s a value proposition to partner with utilities. The savings by working with utilities to acquire space makes sense, because

if they had to build the infrastructure and go through the zoning, it would be expensive. The utilities save the carriers so much money in the long run,” Thomas said. Garrison added, “We can make their shopping a lot easier.”

One of the speakers, William Sill, a partner in the law firm of Wilkinson Barker Knauer, gave the conference audience an overview of the regulatory and marketplace forces that affect wireless carriers’ use of utility property collocation. “Carriers face significant legal challenges when they want to build new towers,” Sill said.

Facing page: This substation compound and tower view is an example of one of Nevada Power's 33 monopole collocation towers for wireless carriers.

“Government regulations and market forces favor collocation and remove some of the challenges carriers’ otherwise would have.”

Sill explained that the FCC has regulations that require a prospective tower owner or tower builder to provide information to state historic preservation offices for them to comment and also to

ing boards are asking whether other alternatives, such as collocation and DAS, were considered. The FCC also encourages collocation because the more that takes place, the fewer new towers have to be built. From a visual impact perspective, there is a benefit to that,” Sill said.

Sill’s law office partner, Wade Lind-

and faster construction. As wireless systems build out and have new coverage areas, they bring with the wireless systems abilities to provide E-9-1-1 and improve public safety,” Sill said.

Nevada Power

Ron Bilodeau, staff contracting agent and joint user supervisor for Nevada



Allen Garrison, chairman of the UtiliSite Council: ‘Being part of a nationwide network of utilities in the infrastructure business is beneficial to utilities.’



Ron Bilodeau, a conference speaker from Nevada Power: ‘We utilities have the disadvantages of regulatory constraints, and our core business is delivery of electricity.’



Martha Bailey, an attendee from Tennessee Valley Authority: ‘Carriers expect a quick turnaround process and “time to market” is key to their success.’

provide notice for public comment, to see whether the net effect of the tower may adversely affect a historic site. The FCC requirements involve compliance

say, told the conference that some regulatory initiatives before the FCC could affect collocation, including the migratory bird and pole attachment rulemakings. Both could encourage or discourage to some degree collocation, “but the outcome of these proceedings is far from clear,” Lindsay said.

Sill said he believed there is an opportunity for the wireless industry and the

utility industry to create a win-win situation by collocation.

“First, carriers would gain access to poles and carriers could avoid some regulatory hurdles, and collocation could minimize the up front capital cost.

“Second, a business opportunity exists for a utility to lease space and to provide turnkey services for installation and wiring.

“Third, the public would win because collocation can be faster. It promotes faster introduction of wireless services

Power, showed his company’s Las Vegas portfolio of 33 monopole sites at a conference session, and explained how a utility collocation program can generate some additional cash flow to return back to the ratepayers to defray electric costs. “Along with that cash flow come responsibilities and liabilities. A lot of wireless carriers are interested in utility infrastructure collocation. We have the big four carriers in Las Vegas and three new entrants and some DAS providers. It’s a good business, but not our core business. We’re continuously learning,” Bilodeau said.

“We utilities have the disadvantages of regulatory constraints, and our core business is delivery of electricity. The regulations and reporting requirements that tower owners fall under are different in some ways from those required for electric poles and distribution networks,” he said.

“With collocation, the carrier’s workers and subcontractors will be visiting what can be considered to be hazardous

Some regulatory initiatives before the FCC could affect collocation, including the migratory bird and pole attachment rulemakings

with the National Historic Preservation Act. (NHPA) Steps also must be taken to comply with the National Environmental Policy Act (NEPA).

“With collocation, a carrier is not subject to NEPA. Collocations also are exempted, for the most part, from requirements under Section 106 of NHPA, although that is a little trickier because there are exceptions. It is not an absolute exemption; it is partial,” Sill said.

“Local zoning boards are trying to encourage collocation. Some zon-

sites. And you're incurring some reporting obligations. You might have to file some Environmental Protection Agency reports depending on how much diesel fuel and how many batteries are on the site," Bilodeau explained.

"The regulatory environment is continuously changing and an attachment classified in a manner today may be classified differently by a regulatory agency at a later date," he said.

Fresh obligations

Bilodeau said a question utilities have to deal with is whether the attaching of an antenna to a lattice electrical tower may in time place the utility under the obligation to have to comply with other regulatory restrictions that might not have applied before the antenna was placed.

Also, in regard to the business model, Bilodeau said it was possible for utilities to outsource the installation work to the carriers—letting them develop the site—and then give them an abatement on their license fee to offset the construction cost.

"We don't put out cash immediately, but we forgo some revenue in the near future. We recover that quickly by having others attach to the tower," he said. "There are many benefits to the utility in accommodating wireless collocations, including a good revenue stream and improved public perception in that you are assisting the deployment of broadband services while trying to keep the proliferation of monopoles to a utility environment where they have less of an aesthetic impact on the community."

However, Bilodeau cautioned utility representatives about potential liabilities. "Some of the liabilities I see are the EPA reporting requirements involving generators and batteries. And you have additional tax liabilities. You are exposed to some potential litigation. There is a high fatality rate among tower climbers, and you don't have much control over their training and their access to the tower you own. For example, you own the tower, but a carrier sends their climbers to climb it. You're responsible to have the tower maintained so you're not subject to liability from a third party who climbs your tower."

He added, "The advantage of joining

an organization like UtiliSite Council is that you have the benefit of the experience of a group of utilities engaged in the business so that you can understand the benefits and liabilities before the liabilities outweigh the benefits."

Duke Energy

One of the conference attendees,



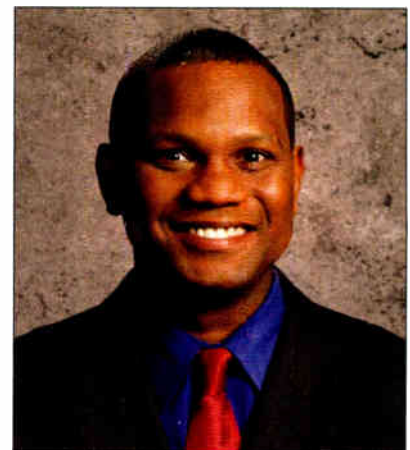
William Sill, esq., of Wilkinson Barker Knauer: 'Government regulations and market forces favor collocation and remove some of the challenges carriers' otherwise would have.'

J. Carl Nichols, who works in asset and contract administration at Duke Energy, said what he liked about the collocation summit was the sharing of best practices, and finding that one's own situation at a utility is not unique. "Carriers would like you to believe your requirements are unique but through networking at the UtiliSite's conference, you find out that there are similarities in how the utilities run their collocation business. That is very valuable," he said.

Another attendee, Martha Bailey, a specialist for telecom products at the Tennessee Valley Authority, which has 100 licensed collocation sites, said, "Since the wireless industry is fluid, utilities should keep abreast of changes in the market and adjust their marketing strategy to take advantage of opportunities to grow their antenna collocation business. Automation is also important—carriers expect a quick turnaround

process and "time to market" is key to their success."

Bailey added, "The wireless industry is going through technology changes and carriers are interested in upgrading current sites to the new technology. Since the zoning and permitting ordinances in many metropolitan areas are getting more restrictive,



Karnel Thomas, vice president of member services at Utilities Telecom Council: 'It's a value proposition [for wireless carriers] to partner with utilities.'

existing utility sites are often easier to get approved."

Gainesville Regional Utilities

Jim Werner, who represents UtiliSite member Gainesville Regional Utilities, said that UtiliSite gives utilities visibility. "We want all the carriers to recognize that we have tower assets that they can lease from us," he said. "UtiliSite does advertising and goes to major shows and conventions where others are. UtiliSite is brand new but is working on marketing strategies and public relations initiatives at this time."

Werner said that before UtiliSite, carriers learned about his utility's towers mostly by word of mouth. "A carrier would ask, 'There's a tower over there; who owns it?' They would call the utility and see if they could get on the tower. Eight times out of 10 that's how we got a collocation. We have a small marketing department that has reached out on a local level. But having UtiliSite gives

us a national presence," he said.

At another conference session, Carlos Mariosa, senior manager of field services automation practice for AT&T, offered a view of the future for wireless telecommunications, highlighting the evolution of mobile devices, remote asset management, and changes in RF technologies and tower codes that could limit the ability to use utility infrastructure to support antenna collocation.

Financial perspective

David Coleman, an analyst with RBC Capital Markets, offered a financial perspective on the wireless industry, explaining that the largest cost for carriers includes lease and property expenses. Josh

Loon, a regional development director for T-Mobile, said his company gives

design fee structures and site license agreements accordingly.



Three transmission poles in a row in Las Vegas, NV, support wireless telecommunications and backhaul antennas.

priority to the best overall deal, and he suggested that utilities design their structures with collocation in mind, streamline the collocation process, and

try to get them on board," he said.

More information is available about UtiliSite Council at www.utilisite.utc.readyportal.net. **agl**

UtiliSite chairman Garrison, who handles collocation for SRP Telecom in Phoenix, said he believed the conference provided a lot of synergy from having a group of utility company representatives who work with the wireless industry together "in one place, one room, one conference. A lot of the discussion that goes on in such an environment is productive and generates a lot of enthusiasm. Many of the attendees will reach out to other utility representatives that weren't there and

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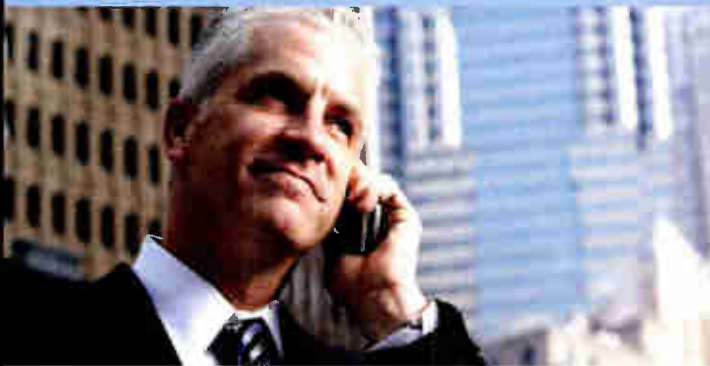
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Test Equipment for Telecom Antenna Sites

Outfitting workers with the right test equipment is the first step. Keeping the equipment calibrated is the second step. The result improves system performance and reduces labor spent on troubleshooting problems.

by Clark Braud, as told to AGL

As the business development manager at JM Test Systems, Baton Rouge, LA, Clark Braud supplies test equipment used by tower erectors, tower maintenance crews, electronic equipment installers and technicians at telecommunications antenna sites. His discussion of test equipment requirements follows.

When working on the installation and maintenance of cell sites, you need electrical grounding test equipment because someone has to verify that the grounding is correct. Every tower and site equipment has to be grounded according to code. Either the cell phone companies or a company that specializes in the grounding or site installation will perform electrical grounding measurements to ensure that the site and tower are correctly grounded.

If the workers are installing cabling and antenna systems, they are required to verify that they have installed them according to specifications. For proof of

correct installation of cable and antenna systems, *cable and antenna analyzers* – line sweepers – are used to make measurements and document the installation.

Another device used during the installation of a communications tower is called a *tensionometer*; it is a device for measuring the tension of a support cable. Those measurements are essential when a guyed tower is being installed, and tension should be checked periodically thereafter.

After the first tenants are on the site, sometimes there is a need to analyze for potential or actual interference. If your company is involved in looking for interference, the need for a spectrum analyzer comes in. Usually the cellular telephone infrastructure group takes care of that.

Backhaul connections between cell sites and central offices are made with microwave links, fiber-optic cable or leased telephone lines. If you're maintaining the microwave link, you are going to need power meters, frequency

counters and spectrum analyzers. If you install microwave antenna systems, you will need equipment to do path alignment. With microwave links, you will also use line sweepers to test the cable and the antenna system.

To maintain fiber links, that's another story. Some of that responsibility gets leased out. If fiber were your responsibility, you would be interested in bit error rate testing and optical measurements devices such as an *optical time domain reflectometer* (OTDR), optical power meters and light sources.

I haven't seen much of this yet, but you know about the recent FCC requirement for cell sites to have a backup source of power for up to 8 hours, such as solar power, batteries, a diesel generator and hydrogen fuel cells. *Power quality* might become important. When your site switches from the AC lines to a diesel generator that kicked in because your power went out, there can be inrush currents and transit voltage events. I haven't seen

Utility vs. Celco Interference

A utility company had a complaint from a cellular phone company that its private mobile communication system was interfering with a nearby cell site transition. The utility company sent its technician to investigate the complaint and made measurements that proved that its signal could not be interfering with the cellular company's signal. The cellular company also made measurements and insisted that the interference was the

utility company's fault. After weeks of going back and forth it was found out that the cellular phone company's test equipment had not been calibrated and was giving incorrect results. Because of this, both companies spent weeks of engineer and technician time looking at the wrong causes of the problem just because one instrument had not been calibrated.

—Clark Braud

a high level of concern about that yet, but it is beginning to show up. Power quality is something that probably will become more important as time moves on.

Technology improvements led to min-

An important aspect of testing involves calibrating the instruments

iaturation, which only helps climbers and site maintenance personal. A long time ago when you wanted to measure a cable or antenna system, you needed to have 70 pounds of test equipment. Now most equipment used to perform these measurements weigh less than 7 pounds and can easily be carried by one technician.

Spectrum analyzers now are portable and battery operated and you can hold them in your hand. Many line sweepers have been integrated with products such as spectrum analyzers, bit error testing sets and power meters.

RF power measurements are important at communications sites, and power meters can be a key measurement tool. Power Meters can be single-purpose instruments or combined with spectrum analyzers, frequency counters or built into cable and antenna line sweepers.

Calibration

An important aspect of testing involves calibrating the instruments. Most of the cell phone companies require anyone that is doing technical work for them, such as cable and antenna line sweeping and installing, to use equipment that is traceable to NIST, the National Institute of Standards and Technology. That's what a calibration facility such as ours does. We calibrate and certify instruments typically on an annual basis. We are the link that shows that the measurements can be traceable to a national or international standard.

Calibration certification ensures that measurements are correct and that the equipment is not giving them erroneous readings. A consequence of erroneous read-

ings might be interference, for example. The FCC has regulations on how much bandwidth a communications signal can occupy and what frequency and power level a RF communications signal can put out. If a technician's power meter is not making the right measurement, the transmitter output power could be set too high and could be interfering with one of the other carriers sharing the antenna location.

If an uncalibrated instrument results in the transmitter output being set too low, then it might affect mobile-assisted hand-offs and could lead to dropped calls on the cell site. In one such instance, a carrier sent technicians back out to a cell site to make sure the power output it was correct, and it measured correctly, but they still had problems. They sent another technician who spent a few days working at the site and found that the power output was incorrect. The carrier had two power meters giving different readings, and you wouldn't have that problem if the instruments were certified and calibrated.

Compete outfitting

Sometimes we outfit technicians start to finish. Every company is a little bit different. A pipeline company maintains analog FM radios that use remote sites and that push data back and forth. Their technicians' tool set includes a line sweeper and a communications test set sometimes known as a service monitor. Other test tools used by pipeline communications departments are spectrum analyzers and RF and microwave power meters.

For tower installation companies, we provide cable and antenna analyzers, DMMs and power meters. A technician would have a line sweeper and a DMM, and that would be the basic set for installing and hooking up cables and cable jumpers. Someone stacking the tower would need a tensionometer.

Depending on the size of the company, an example might involve six technicians who share equipment. Some companies outfit per technician, as the pipeline company does, because they have technicians in regional areas, each outfitted with a full tool set.

Some tower companies share equipment among technicians from a central location.

The Need for Calibration

A large cell phone company was having problems with dropped phone calls at one of their cell sites. They had recently installed a new multi-channel power amplifier (MCPA) and had set the output level on the upstream using a power meter. When the technician was sent out to investigate the problem he used the same power meter to check the MCPA that he used when he installed it. He reported everything to be correct, but problem did not clear up. He spent the next day troubleshooting the site, but still could not correct the problem. On the third day another technician was sent to the site to assist with the troubleshooting. When he measured the output of the MCPA with his power meter it turned out to be 7 dbm higher than what the first technician measured.

To solve the problem a third power meter was used and the measurements agreed with the second technician's measurements. The MCPA was then set to the proper levels and the problem of dropped calls went away. These incorrect setting caused mobile phones to not perform mobile-assisted hand-offs correctly. After further investigation it was determined that the technician power meter had not been calibrated and was reading incorrect power levels.

If the power meter had been calibrated on a regular basis, the dropped calls problem would have been avoided and the cell phone company would not have spent 30 to 40 hours of technician time fixing the problem, not to mention that the dropped calls may have represented lost revenue to the company and may have caused customer complaints.

—Clark Braud

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DAS Fits Coverage to Recreational Center—*Fast*

Rapid DAS installation delivered multi-carrier cellular coverage in the Black Gold Centre in Leduc, Alberta, Canada, in time for the 2008 Alberta Winter Games.

by John Spindler

Civic pride and a commitment to the safety of their citizens has communities large and small opting to enhance cellular coverage in public facilities. One example is the Black Gold Centre (BGC) multi-use recreational center in the City of Leduc, which is just outside Edmonton, Alberta, Canada. Working under a tight deadline, ADC and local reseller Dynamic Wireless delivered a multi-carrier solution that provides strong and consistent coverage throughout the facility.

Steel, concrete, and radio waves

BGC is a recreation facility serving Leduc's 20,000 residents. The 25-year-old, 60,000-square-foot facility houses an eight-sheet curling rink, an ice hockey rink, two swimming pools, two multi-purpose rooms, and dressing, spectator, and lounge areas.

The problem was that due to the building's metal roof and concrete construction, mobile coverage inside was extremely poor. It was seldom possible to make or receive a call without having to step outside the building to get service from the nearest cellular base station, which was 1.4 km distant on the roof of a 12-story building.

"As a municipal government, we have numerous considerations when we are evaluating a project," said Gerald Unger, manager of Computer Services for the City of Leduc. "We want to get a good value for our taxpayers, and we need to take into account the health and safety of our citizens. If somebody were

28 above ground level

Deployment Summary

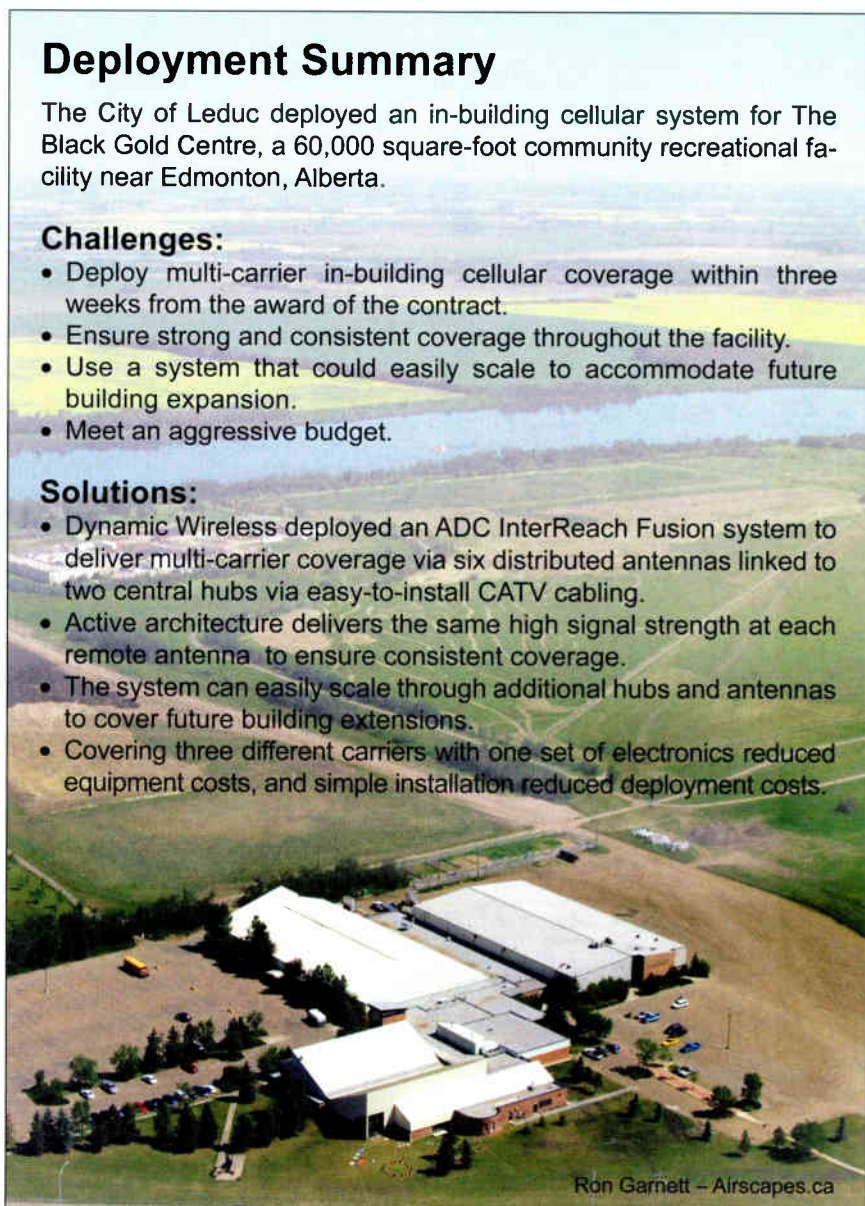
The City of Leduc deployed an in-building cellular system for The Black Gold Centre, a 60,000 square-foot community recreational facility near Edmonton, Alberta.

Challenges:

- Deploy multi-carrier in-building cellular coverage within three weeks from the award of the contract.
- Ensure strong and consistent coverage throughout the facility.
- Use a system that could easily scale to accommodate future building expansion.
- Meet an aggressive budget.

Solutions:

- Dynamic Wireless deployed an ADC InterReach Fusion system to deliver multi-carrier coverage via six distributed antennas linked to two central hubs via easy-to-install CATV cabling.
- Active architecture delivers the same high signal strength at each remote antenna to ensure consistent coverage.
- The system can easily scale through additional hubs and antennas to cover future building extensions.
- Covering three different carriers with one set of electronics reduced equipment costs, and simple installation reduced deployment costs.



Ron Garnett – Airscapes.ca

to slip and get injured on a curling pad, you couldn't get a cellular call out because we had very, very poor coverage inside the building. An in-building cellular system would give us the ability to get help quickly whenever an incident may occur within the facility."

By late 2007, the City of Leduc budgeted funds to address the problem. Along with the need to improve public safety, the approach of the 2008 Alberta Winter Games was a key driver for the decision. During the Games on Feb. 14-17, 2008, the BGC would host curling, synchronized swimming, and some ice hockey competitions, and the City wanted to make sure that visitors to the Games would have strong cellular coverage inside the facility.

To provide service for all visitors, the City wanted to deliver coverage for Bell, Rogers, and Telus – the area's three cellular carriers, and the system had to be operational by the start of the Alberta



Photo 1. Rooftop masts capture the signal from a distant cell tower for distribution within the Black Gold Centre.

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Winter Games. The City had several additional requirements:

- It wanted a vendor that could provide a turnkey solution, including the entire deployment as well as the carrier approval process.
- It wanted a vendor that could offer local support in Canada.
- The system needed to support remote diagnostics, so both the local vendor support team and the city government would receive alarms if a system component malfunctioned.

Unger and his team solicited proposals from several in-building wireless vendors, but ADC was the only one that came back with a proposal which fully met the requirements. The project was begun in late January 2008 and the system went operational on February 11.

InterReach Fusion system

They deployed the ADC InterReach Fusion in-building wireless system. InterReach Fusion is a distributed antenna system (DAS) that provides multi-carrier cellular coverage inside buildings. It uses an active architecture, with a system of electronic hubs and remote antenna units (RAUs). This design has several advantages, including end-to-end alarming and management as well as the use of RG-6 CATV cabling for relatively fast and simple deployment.



Photo 3. Omnidirectional antennas provide in-building coverage for the Centre's entry hall, dressing rooms, and swimming pool.

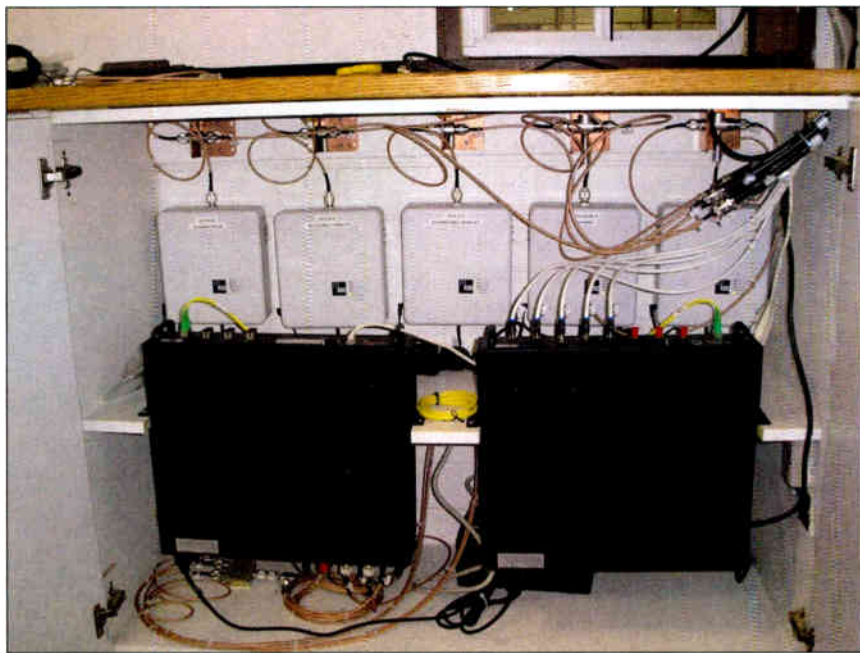


Photo 2. InterReach Fusion main and expansion hubs distribute signal from the rooftop antenna to distributed antennas at the Black Gold Centre.

“Passive” DAS solutions often use thick, inflexible coaxial cabling that requires special installation expertise.

Moreover, the system delivers the same high signal strength at each antenna point. This virtually eliminates the frequency planning and site surveys common to many other in-building deployments, and it reduces the power required for cellular phones to make and receive calls, thus extending their battery life.

Dynamic Wireless, the installation contractor, deployed masts on the BGC's roof (see Photo 1) to capture carrier signals from the donor cell site, which was located on top of a 12-story building 1.49 km away.

Once inside the building, the cable from the masts was connected to a DAS head-end consisting of a bidirectional signal amplifier (BDA) and the main hub. Adjacent to the main hub is an expansion hub that distributes 850 MHz and 1900

MHz signals via plenum-rated RG-6 cabling to five RAUs with attached antennas (see Photo 2). This enables coverage for Bell Mobility's 1900 CDMA 1xRTT service, Rogers' UMTS GSM services, and Telus' and 1900 CDMA 1xRTT and 1xRTT/EvDO services.

Dynamic Wireless deployed three omni-directional antennas above the center's false ceiling (see Photo 3) to cover the dressing areas, main entry hallway, and swimming pool, and two flush-mount directional antennas to cover the ice rink and the curling rink. Ceiling-mounted antennas blend in nicely with existing ceiling panels, and these can be painted to match any décor.

Although Telus and other carriers offer a push-to-talk service on a third frequency, the City of Leduc chose not to install coverage for those phones because they are used mostly by construction personnel. “We didn't feel it was necessary given the budget we were working under,” said Unger.

To meet the monitoring and maintenance requirements, Dynamic Wireless connected the main hub to the city's private, 1 Gb/s fiber-optic network. This link passes system alarms from the BGC's cellular system back to City Hall, where the city's data center is

located. The City of Leduc also uses the network link to provide communications for on-site computers that handle reservation systems, calendars, and other services at the BGC.

Thanks to the active hub-and-spoke architecture of the DAS, the system has been configured to automatically report fault alarms back to the city's IT staff. "It's a fairly small town," said Unger, "so we wanted something we wouldn't have to actively manage. This way, it's set up to alert us if something is wrong, and at that point we would contact ADC and have them take care of it."

In the end, the deployment was complete and operational on February 11, three days before the Winter Games began. "ADC was absolutely wonderful in working with us to get this up and running," says Unger. "The project costs were what we expected, and there have been no surprises ever since. They say that nobody ever tells you when cellular service is working – only when it's not – and we

haven't had one complaint about cellular coverage since the system went in."

In fact, the system has performed flawlessly, and Unger reports that in his own survey of the BGC's coverage, he gets maximum signal strength in nearly all areas. "The signal dips a bit in some of the changing rooms," he says, "but it's still perfectly good enough to make and receive calls."

Room for expansion

In addition to its ease of deployment and multi-carrier capabilities through a single set of electronics, the system at BGC will expand to meet the city's future needs. The city is currently funding a \$47.5 million expansion that will add two more ice hockey rinks, two field houses that hold two indoor soccer fields, and a community center that can host more than 1,100 people for public events.

Although the new Leduc Recreational Centre will be much larger than the cur-

rent structure, extending cellular service to it will be a simple matter of adding a few more RAUs to the current expansion hub, and moving some of the existing RAUs to different locations. In addition, said Unger, "We will have a new section of roof on the expansion that's about 30 feet higher than the one we have now, so we will probably relocate the roof masts for maximum signal capture."

Despite its relatively small size, the City of Leduc has now deployed an in-building wireless system in its recreational center that delivers services rivaling those at major stadiums, airports, and other public facilities around the world. The city needed to deploy a high-performance system within 60 days on an aggressive budget, and ADC delivered. **agl**

Spindler is vice president of marketing for LGC Wireless, San Jose, CA. His email address is jspindler@lgcwireless.com.

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Federal Court to FCC: Reconsider Migratory Birds

Petitioners before a federal court won three of their four points in their drive to require the FCC to give more consideration to the effect communications towers may have on avian mortality – bird kill.

–AGI report

The vote was two to one among circuit court judges at the U.S. Court of Appeals for the District of Columbia Circuit who upheld a petition brought by the American Bird Conservancy (the “Conservancy”) and the Forest Conservation Council (the “Council”) vs. the Federal Communications Commission seeking reconsideration of the federal agency’s order denying in part and dismissing in part their petition seeking protection of migratory birds from collisions with communications towers in the Gulf Coast region.

The remand by the court is seen by some as having said to the FCC that, in effect, the agency must from now on put Antenna Structure Registrations (ASRs) on public notice. For those requesting registration numbers, the typical experience has been that the FCC issued a registration number within a day of the request. The U.S. Court of Appeals for the District of Columbia Circuit was critical of such speedy service, saying that people should have the right to know when a registration is filed and to oppose it.

As a result of the ruling, it is possible that tower owners could have to file public notices with every ASR, and once filed, they might be opposed. Should opposition to the tower arise, until the FCC decides the merits of the opposition, the tower could not be built. The possibility makes this remand by the court meaningful, and what the FCC will do with it is uncertain. The matter is something of concern to the wireless infrastructure owners and wireless network operators.

The court said it vacated the FCC’s order because the agency “failed to apply the proper National Environmental Policy Act standard, to provide a reasoned explanation on consultation under the Endangered Species Act, and to provide meaningful notice of pending tower applications.”

Concerned about the effect of “tower kill” on migratory birds in the Gulf Coast region of the United States, the petitioners on Aug. 26, 2002 formally requested that the Commission, among other things:

- 1) Prepare an environmental impact statement (EIS) under NEPA analyzing the effects of all past, present, and reasonably foreseeable tower registrations on migratory birds in the Gulf Coast region;
- 2) Initiate formal consultation with the United States Fish and Wildlife Service (FWS) pursuant to the ESA regarding the Gulf Coast towers’ impact on various bird species; and
- 3) Take steps in accordance with the Migratory Bird Treaty Act (MBTA) to reduce bird mortality at Gulf Coast tower sites. Petitioners also requested that they be provided notice of and an opportunity to comment on proposed Gulf Coast tower registration applications before they are granted.

While the Gulf Coast petition was pending, the Commission commenced a nationwide proceeding in a new docket. On Aug. 20, 2003 it issued a Notice of Inquiry to gather evidence regarding communica-



tions towers' impact on migratory birds throughout the United States, and to determine whether to change its current rules and processes to better protect migratory birds.

In response, the Commission received more than 250 comments expressing divergent views on the law and the facts, including the frequency of fatal collisions and the overall effect on migratory bird populations. Environmental groups claimed that towers kill 4 million to 50 million birds per year, while industry groups claimed that such claims are overstated.

In April 2005, seeking to compel the Commission to act on the Gulf Coast petition, the Conservancy and the Council filed a petition for a writ of mandamus with the appeals court. Five days after oral argument, the Commission issued the *Order* denying in part, dismissing in part, and deferring in part the Gulf Coast petition. In dismissing the Gulf Coast petition, the Commission stated that it would address aspects of the migratory bird issue as part of a separate docket examining the issue on a nationwide basis. The court thereafter

dismissed the mandamus case as moot. In November 2006, the Commission issued a notice of proposed rulemaking (NPRM) in the nationwide proceeding

comments on "the legal framework governing the Commission's obligations in this area." and on how to define significant environmental effects in this context. Additionally, the Commission invited comment on whether it should amend its environmental rules or take action "to reduce the number of instances in which migratory birds collide with communications towers."

The Commission "tentatively" proposed that communications towers use "medium intensity white strobe lights" rather than red lights that may present a higher risk of tower kill. The comment period in the nationwide rulemaking proceeding closed in May 2007, but the Commission has yet to take final action.



Small birds that migrate at night, such as this black throated green warbler, are among those most at risk for fatal collisions with telecommunications towers that are marked as aviation obstructions with steady-burning red beacon lights.

in which it sought further comment on the factual, legal, and policy issues regarding the impact of communications towers on migratory birds. The Commission asked generally whether the impact warrants Commission action under the environmental statutes and expressed uncertainty about the underlying facts, seeking "further comment supported by evidence regarding the number of migratory birds killed annually by communications towers." It also sought

FCC 'acted reasonably'

Meanwhile, in May 2006, the petitioners sought review of the *Order*. The court recognized the Conservancy's and the Council's standing in the matter because members of the organizations engage in recreational birdwatching and research on birds in the Gulf Coast region.

The court considered the petitioner's

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contention that under the MBTA, which makes it unlawful to "pursue, hunt, take, capture, [or] kill" any migratory bird, the FCC unlawfully "takes" migratory birds when birds die in collisions with Commission-licensed towers and sought to have the Commission comply with the MBTA "by taking steps to reduce or eliminate intentional or unintentional 'takes' of migratory birds."

But the court decided that the FCC was acting reasonably in deferring consideration of this issue in light of its ongoing NPRM, a "nationwide" proceeding. "Collisions of birds and towers occur throughout the United States and the nationwide proceeding was designed to obtain additional relevant information," the court said.

The petitioners raised the FCC's responsibility under NEPA. NEPA does not impose substantive environmental mandates, but it does require federal agencies to establish procedures to account for the environmental effects of certain proposed actions. In particular, for "major Federal actions significantly affecting the quality of the human environment," agencies must prepare an EIS that examines, among other things, the adverse environmental effects of a proposed action and potential alternatives. The Conservancy and the Council contended that NEPA requires the Commission to prepare a programmatic EIS to assess the environmental impact of towers in the Gulf Coast region.

The Commission's regulations implementing NEPA categorically

Antenna Structure Registration

As part of its ongoing efforts to promote air safety, the Federal Communications Commission requires owners to register certain antenna structures – generally those more than 200 feet in height or located near an airport – with the Commission. In a *Report and Order* released Nov. 30, 1995, the Commission adopted rules designed to streamline the registration process and began requiring antenna structure owners – instead of licensees – to register these structures with the Commission. In a *Memorandum Opinion and Order on Reconsideration* released March 8, 2000, the Commission clarified several registration requirements.

The Antenna Structure Registration rules are contained in Part 17 of the Commission's Rules (47 C.F.R. 17).

What are antenna structures?

The FCC Rules specifically define the term "antenna structures" as "[T]he radiating and/or receive system, its supporting structures and any appurtenances mounted thereon." In practical terms, an antenna structure could be a free standing structure, built specifically to support or act as an antenna, or it could be a structure mounted on some other man-made object such as a building or bridge. In the latter case, the structure must be registered with the FCC, *not the building or bridge*.

Objects such as buildings, observation towers, bridges, windmills, and water towers that *do not* have an antenna mounted on them *are not* antenna structures and should not be registered. The FCC only has jurisdiction over antenna structures, and thus, other objects that do not house antennas are not required to be registered with the FCC, regardless of their location or height.

What is antenna structure registration?

The Antenna Structure Registration Program is the process under which each antenna structure that requires FAA notification – including new and existing structures – must be registered with the FCC by its owner. The owner is the single point of contact for resolving antenna-related problems and is responsible for the maintenance of those structures requiring painting and/or lighting. Note that because the antenna structure registration requirements only apply to those antenna structures that may create a hazard to air navigation, either by their height or proximity to an airport, the registration files do not contain a comprehensive record of all antenna structures.

Antenna structure registration does not replace the FAA notification requirement. Registration must be undertaken after an owner has requested a study of the site by the Federal Aviation Administration and received a "final determination of no hazard," but before any licensing applications are filed with the FCC for the site.

—Source: FCC.

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The willow warbler is native to Europe, where towers less than about 300 feet tall need not be marked at night with aviation obstruction lights. The suggestion has been made to modify U.S. regulations to allow turning off the aviation obstruction lights for most towers less than 300 feet tall, subject to results of an FAA conspicuity study.

exclude communications towers from environmental processing because towers "are deemed individually and cumulatively to have no significant effect on the quality of the human environment." Federal agencies are permitted to draw such conclusions under regulations issued by the Council on Environmental Quality (CEQ) to implement NEPA.

However, a party may still allege that a "particular action, otherwise categorically excluded, will have a significant environmental effect" and can file a petition "setting forth in detail the reasons justifying or circumstances necessitating environmental considerations in the decision-making process."

If the Commission determines that the proposed action "may have a significant

environmental impact," then it will require the applicant for a tower license to prepare an environmental assessment (EA), a less rigorous undertaking than an EIS, and also may obtain additional information. Upon analysis of the EA, the Commission must do one of two things:

- 1) If the Commission determines that the proposed action "would not have a significant impact, it will make a

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finding of no significant impact.”

2) If the EA indicates that the proposed action “will have a significant effect upon the environment,” the Commission must prepare an EIS.

The Commission gave two reasons for dismissing the request for a programmatic EIS:

- 1) “The lack of specific evidence ... concerning the impact of towers on the human environment,”
- 2) “The lack of consensus among scientists regarding the impact of communications towers on migratory birds.”

FCC ‘misunderstanding’

For the court, neither reason was sufficient to sustain the Commission’s refusal to take action pursuant to NEPA. Moreover, the court said that together the two reasons demonstrate the FCC’s apparent misunderstanding of the nature of the obligation imposed by the statute. The court added that the FCC failed to follow its own regulations in implementing NEPA, which say that

The court said that the FCC’s own statement in its Order that there are “conflicting studies” and “sharply divergent views” regarding the number of birds killed confirms, rather than refutes, that towers may have the requisite effect

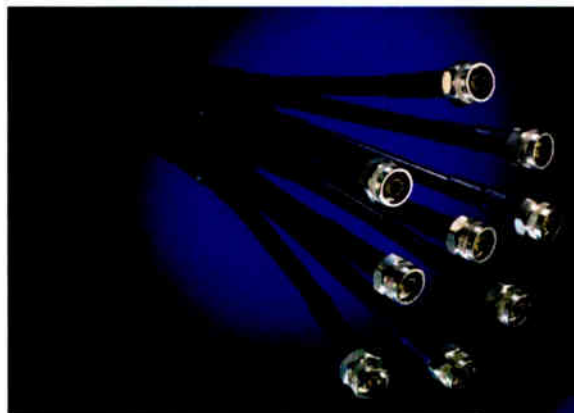
the agency must review petitions that it conduct an analysis of actions that are otherwise categorically excluded. The applicable regulation requires an EA when an action “may” have a significant environmental effect. The court said that the FCC *Order’s* demand for definitive

evidence of significant effects – noting the petitioners’ failure to make a “scientific showing that the population of any specific bird species has decreased as a result of collisions” – plainly contravenes the “may” standard.

The court added that the *Order’s* suggestion that scientific consensus is a precondition to NEPA action is inconsistent with both the Commission’s

regulation and with the statute. In a previous ruling involving the Atomic Energy Commission, the court said, “[I]t must be remembered that the basic thrust of the agency’s responsibilities under NEPA is to predict the environmental effects of a proposed action before the action is taken and those effects fully known.” A precondition of certainty before initiating NEPA procedures would

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What makes a tower conspicuous to a pilot – a steady red beacon at night – may make it confusing to a migrating bird such as this willow warbler. Some conservationists hope an FAA conspicuity study may indicate that flashing beacons are sufficient.

jeopardize NEPA's purpose to ensure that agencies consider environmental impacts before they act rather than wait until it is too late.

The court said that the FCC's own statement in its *Order* that there are "conflicting studies" and "sharply divergent views" regarding the number of birds killed confirms, rather than refutes, that towers may have the requisite effect.

Based on its review, the court vacated the NEPA part of the *Order* and directed the FCC to address the petitioners' request that it conduct a programmatic EIS based on a threshold for NEPA analysis that is less stringent than the *Order* reflects. "Conflicting data points do not forestall NEPA's mandate. Pursuant to its own regulations, the Commission may commence such analysis through the preparation of an EA," the court said.

The court then turned its attention

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to the FCC's obligations under the Endangered Species Act.

FCC obligation

The ESA requires federal agencies to ensure that any "action" they authorize, fund, or carry out is not likely to "jeopardize the continued existence of any endangered or threatened species," or result in the destruction or adverse modification of critical habitats. Regulations promulgated by the Endangered Species Committee (which is comprised of several federal agencies) define "action" to mean "all activities or programs of any kind," including "the granting of licenses." They also provide that each federal agency "shall confer" with the FWS "on any action which is likely to jeopardize the continued existence of

The FCC prevailed over petitioners with one of its contentions and lost to them with three in a ruling by the U.S. Court of Appeals for the District of Columbia Circuit involving the federal agency's regulations about migratory birds.

FCC		
Point of Contention	Win	Lose
Antenna Structure Registration		
National Environmental Policy Act		
Migratory Bird Treaty Act		
Endangered Species Act		



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any proposed species or result in the destruction or adverse modification of proposed critical habitat.” If an agency determines that an action “may affect” endangered or threatened species or critical habitats, the agency must initiate formal consultation with the FWS, at least unless preparation of a biological assessment or participation in informal consultation indicates that a proposed

action is “not likely” to have an adverse affect. The Conservancy and the Council requested that the Commission formally consult with the FWS regarding the cumulative effects of towers on endangered and threatened species.

The Commission declined to consult with the FWS, stating that there is “no evidence of any synergies” among towers that “would cause them

cumulatively to have significant environmental impacts that they do not have individually.”

The court noted that the Commission’s reliance on a lack of “synergies” was not further explained in the *Order*, and said the explanation was inadequate. “The Commission has not described what kind of showing in the ESA context could demonstrate sufficient environmental effects to justify the ‘programmatically consultation’ that Petitioners seek. Short of Petitioners conducting a programmatic EIS them-




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The Catch-22 for the interested parties who wish to file such a petition is that the Commission provides public notice of individual tower applications only after approving them

selves, it is unclear how Petitioners could produce sufficient evidence to meet this standard. We vacate the ESA part of the *Order* and remand that issue,” the court said.

“The CEQ regulations require agencies to make ‘diligent efforts to involve the public in preparing and implementing their NEPA procedures.’ Commission regulations permit parties to file petitions for EAs to be conducted for the otherwise categorically excluded tower applications. Petitioners requested that the Commission provide adequate public notice of proposed individual tower applications so that they may seek environmental review before the Commission acts,” the court said.

Hollow opportunity

“The Catch-22 for the interested parties who wish to file such a petition is that the Commission provides public notice of individual tower applications only *after* approving them. Although

the Commission "enjoys wide discretion in fashioning its own procedures," the court said, quoting a previous ruling, "it cannot evade its duty to comply with the CEQ regulations and its own regulations allowing challenges to tower applications by providing the public with a hollow opportunity to participate in NEPA procedures. Interested persons cannot request an EA for actions they do not know about, much less for actions already completed. It was suggested during oral argument that a simple solution would be for the Commission to update its website when it receives individual tower applications; Petitioners stated that such a step would address their NEPA notice claim."

The court vacated the "notice" part of the *Order* and remanded for the Commission to determine how it will provide notice of pending tower applications that will ensure meaningful public involvement in implementing NEPA procedures.

The court concluded, "Accordingly, except as regards deferral of the MBTA issue, we vacate the *Order* and remand the case to the Commission to comply with NEPA and ESA. The results of the NPRM may inform the Commission's decision on remand, but the nationwide proceeding neither incorporates nor supplants the Gulf Coast petition. The Commission has amassed a wealth of information during the past five years, including reports from other federal agencies such as the FWS, a report from its own consultant in 2004, as well as a second round of comments from interested persons. Guided by this opinion, the Commission should be able to proceed with dispatch on remand to resolve the Gulf Coast petition, whether separately or as part of the nationwide proceeding." **agl**

This article is based on a decision rendered Feb. 19, 2008, in a petition for review of an *Order* of the Federal Communications Commission: American Bird Conservancy Inc. and Forest Conservation Council, petitioners, vs. the Federal Communications Commission, respondent, and CTIA – The Wireless Association, et. al, intervenors.

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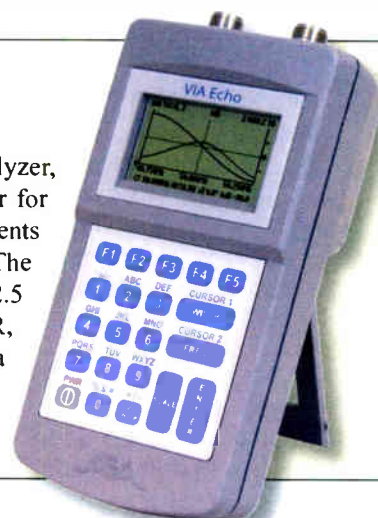
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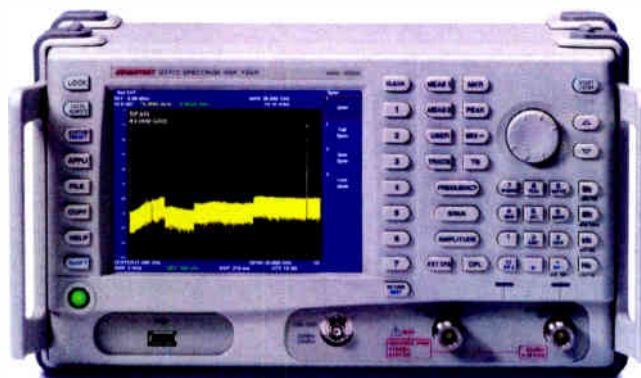
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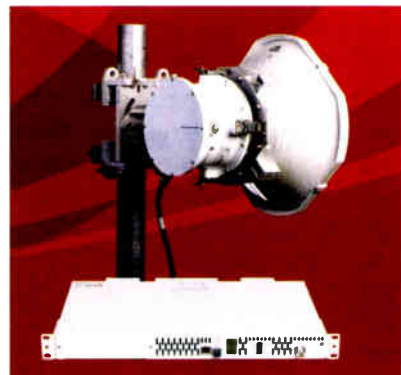
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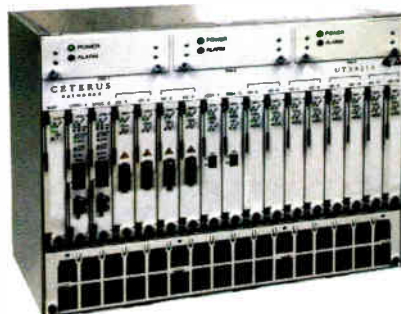
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New York First to Conduct Trade Show

The New York State Wireless Association became the first among 20 such associations to conduct its own trade show when it hosted a daylong convention on March 20.

AGL report

New York set a milestone in the path started several years ago to organize statewide groups throughout the nation to represent the wireless infrastructure industry before municipal, county and state governments. The New York State Wireless Association hosted nearly 300 participants at the Saratoga Hotel and Conference Center in Saratoga Springs, NY, for its 2008 Trade Show and Conference. The event was the first trade show to be conducted by a state wireless association.

“We were oversubscribed on exhibitors. We had more – 28 – than we targeted,” said Doug Dimitroff, president

and founder of the association and a partner with the Buffalo and Albany law offices of Phillips Lytle. “We had 23 sponsors, and overall the feedback was extremely positive. We’re already talking about next year’s show.”

Among others, Dimitroff credited Robert Holliday, vice president and general manager of AT&T’s upstate New York wireless operations, as a driving force on the convention committee of 20 association members. “He really stepped up to the plate and helped to make the show floor a really exciting place.” Dimitroff said the convention was an all-volunteer effort led by Adam

Walters, who is chairman of the trade show committee, secretary of the association and a partner at Phillips Lytle.

One of two keynote speakers, Carl Povelites, assistant vice president for public policy at AT&T Mobility, spoke about the history of the wireless industry and its current status as viewed by federal, state and local regulators. The second keynoter, Kurt Bagwell, chief operating officer of SBA Communications, offered his perspective on the wireless infrastructure industry.

The state association invited municipal officials to attend and take advantage of sessions tailored especially



Doug Dimitroff, at the lectern, welcomes participants to the New York State Wireless Association Trade Show and Conference. Dimitroff said the trade show was successful enough to fund the association’s operations for 2008.

for them. "The educational sessions at the trade show represented our first major attempt at outreach to educate governmental officials and open a dialogue," Dimitroff said. "We invited 500, and about 40 attended, including officials from the towns of Hague, Otsego and Franklin, and the counties of Delaware and Sullivan. They attended a 'Wireless 101' presentation that explained the basics on why a site needs to be in a particular location. We talked about how networks were built and the parameters that carriers are looking for in locating a site."

Dimitroff said that the officials offered feedback about how to reach them better. He said some officials came to obtain a broader perspective from the industry than what they see at zoning hearings.

"Some officials, including the representative from Hague, really came to ask, 'How do I get wireless coverage in my community?' Hague is in the Adirondack Park area, and some



Doug Dimitroff, president and founder of the New York State Wireless Association.



Adam Walters, chairman of the NYSWA trade show committee.



Kurt Bagwell, COO of SBA Communications and luncheon keynote speaker.

in the town are concerned that from an economic perspective, they are slipping behind other tourist areas because they don't have wireless. He wanted to know how to get carriers to come to his community. We heard more of that than we expected, communities apparently wanting to find out how they get better coverage, driven by economic development and safety," Dimitroff said.

The trade show was funded by sponsorships and exhibitor dollars, the association president said. "We made money, which was a huge positive as well, and one reason to count the event as success is that we will be able to fund operations through the rest of 2008."

For information about the New York State Wireless Association, visit www.newyorkstatewireless.org. **agl**



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SWAP Focus: *Education and Positive Industry Awareness*

by Nancy Chrisman



The concept of a grassroots wireless program led by PCIA was in its infancy when I first heard Pat Tant speak at a Georgia Wireless luncheon over two years ago. Her thesis was: For the wireless infrastructure industry to progress at the speed that the advance of wireless telecommunications technology demands, the industry must speak with one unified voice. The notion inspired me, and I identified with it.

When I began working with PCIA as director of SWAP & Membership, I really began to appreciate the State Wireless Association Program's depth and potential. In little more than two years, the program has grown to 20 associations, covering 31 states, with six new

associations in formation – a truly an overwhelming success. With more than half of the country organized with state associations, SWAP's vision is evolving. State association leaders are driving this shift with increased efforts toward advocacy, a desire to offer greater educational content, and the development of more sophisticated tools and resources.

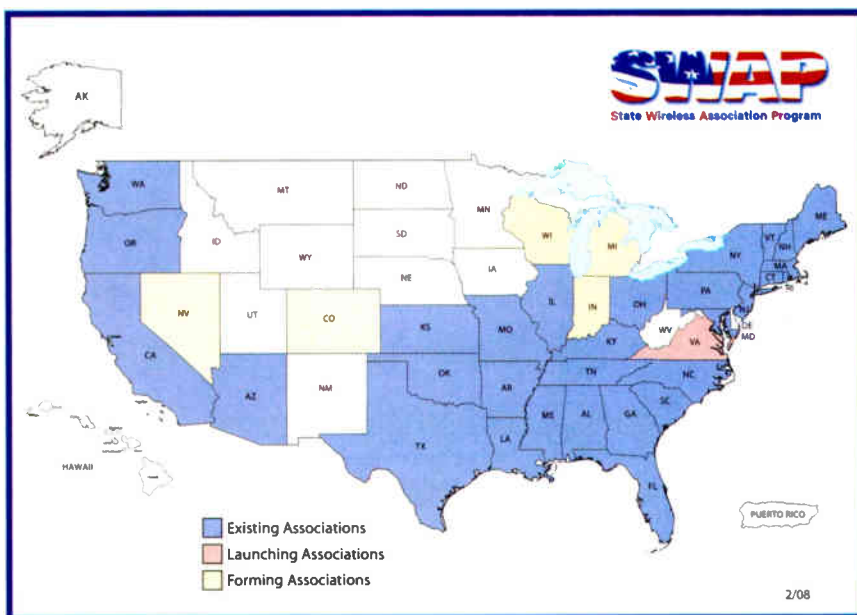
PCIA and SWAP dedicate their support to each state association's local advocacy initiatives. We are seeing effective collaboration on all facets of legislation through the pairing of PCIA's government affairs team with the leaders of the state wireless regulatory committees. From planning legislative action in Georgia, New Jersey and New York, to supporting Alabama and South Carolina with legislative enactment in 2008, and offering an active voice against burdensome or unreasonable legislation in states such

as Ohio, Tennessee, Maryland, and Washington, we are steadily creating an environment for robust wireless deployment across the country.

A central focus for each state wireless association is *education* and the creation of *positive industry awareness*, and we have seen a lot of movement on this front. For example, the New Jersey association received a tremendous response from local officials when they hosted a booth at the League of Municipalities. Similarly, New York had enormous success while hosting a booth at the League of Towns in February. The New York association expanded the scope and depth of its educational program by using its one-year anniversary meeting on March 20 to host a one-day trade show that included educational sessions and a keynote luncheon. For more information visit the association's website at www.newyorkstatewireless.org.

In coming months, PCIA will continue to support SWAP through quarterly roundtable calls, advocacy, educational content, and programmatic tools for its various committees. We look forward to working with our colleagues in Virginia, Colorado, Michigan, Indiana, Wisconsin, and Nevada on establishing new associations in their states, and further building this organization, fulfilling the vision that Pat had two years ago. Contact me at chrisman@pcia.com to find out more about SWAP or if you are interested in establishing an association in your state.

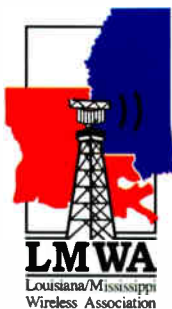
agl



Chrisman is director of SWAP & Membership at PCIA – The Wireless Infrastructure Association.

Meet: Louisiana-Mississippi Wireless Association

by George W. Davis, LMWA president



Louisiana-Mississippi Wireless Association (LMWA)

Meeting Location: New Orleans, Louisiana and Jackson, Mississippi

Date Formed: 2005

Website: www.lmwa.org

State Charity: Blair E. Batson Children's Hospital, Jackson, MS

President: George W. Davis
TowerCom
315 Weycroft Grant Drive
Cary, NC 27519
504-400-5040

gdavis@towercomenterprises.com

The Louisiana-Mississippi Wireless Association (LMWA) has re-emerged stronger than ever in the wake of Hurricanes Katrina and Rita. Formed in 2005, the association gained support with each meeting until August 2005 when the hurricanes devastated the Louisiana and Mississippi coasts. Friends, colleagues and employers including LMWA leadership and membership were forced to relocate out-of-state and in some cases out of the industry altogether. Receding floodwaters left behind more than physical damage. Many lives and career paths were forever altered. After things settled down and wireless networks were repaired, LMWA had lost momentum and stumbled.

Meanwhile, our sister state wireless associations evolved and flourished. As a participant in other state wireless associations, I strongly believed in the need for this advocacy group in Louisiana and Mississippi. After approaching the remaining board members in mid-2007 with the idea of re-launching the association, I was nominated to the board and later elected president.

Our September 2007 re-launch meeting New Orleans drew more than 120 attendees from every industry seg-

ment. The meeting topic was "Disaster Recovery-Lessons Learned From the Storms of 2005 and Changes That Have Been Implemented." A panel led by Jim Hopkins of SiteMaster that included Jay Nida of Crown Castle, Joey Ernest of American Tower and Del Slone of CellularSouth spoke of the exhaustive task of storm preparation, damage assessment and network recovery. Some of their actions and others taken by LMWA members during that time have become standard operating procedure for future emergencies.

LMWA is working with state and local officials in Mississippi to address copper theft. The goal is to pass legislation with tougher penalties for copper theft from facilities associated with public safety and general welfare. We seek to place more responsibility on the scrap metal dealers and others that buy stolen copper. This was the topic of 2nd quarter meeting led by our vice president from Mississippi, Rosemary Aldridge. And our first charity golf event is set for the third quarter in the Jackson, MS, area.

My thanks to those who spent time and effort to create LMWA including previous board members and sponsors. Our current board is motivated and ready to take our association to the next level. I thank them for their collective efforts to keep things going in the face of adversity. I also thank the boards of our neighboring states and the SWAP Executive Committee for outward support of our re-launch. **agl**



Calendar/Events:

3rd Quarter: Charity Golf Event – Location TBD

October 2: 4th Quarter Meeting – Location TBD

Board Members:

Vice President: Wayne Barnett
Louisiana wbarnett@integrisite.net

Vice President: Rosemary Aldridge
Mississippi rosemary.aldridge@neel-schaffer.com

Secretary: Christi King
christi.king@crowncastle.com

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