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MARCH 2016

**Thursday, March 3rd
Membership Meeting**

**Energy Conservation Construction Codes
NY State and City**

**Plus
Special Presentation On Surety Bonds**

Vivaldi Restaurant

201-10 Cross Island Parkway, Bayside, NY

5:30 pm Cocktails; 6:30 pm Dinner

Register Online:

www.maccny.org

METROPOLITAN AIR CONDITIONING
CONTRACTORS OF NEW YORK (MACC)
Formerly Air Conditioning Contractors Association - NY Chapter
123 South Street, Suite 112
Oyster Bay, NY 11771
516-922-5832 / www.maccny.org

From the President...



MARC SOFFLER
Dynaire Corp.

The transition to MACC from ACCA Greater NY Chapter has given us the distinct opportunity to redevelop our organization into one that is a vital resource to industry professionals in the New York Metropolitan Area.

Despite the alteration made to the relationship with ACCA National and its local chapters, ACCA national will continue to be a good resource for our industry. The national organization has always been a strong voice on Capitol Hill before state legislators and utilities. Because of this, maintaining a relationship with ACCA might be beneficial for some members, but being a member of MACC gives you the opportunity to network with likeminded professionals in our area, as well as participate in topics that deal uniquely with HVAC issues that challenge contractors in the NY Metropolitan Area.

Our last few networking events, the Holiday Party at the Chalet, and the Knick's Game at Madison Garden had record attendance by members and guests, which clearly demonstrates that this organization is strong and capable of providing successful networking opportunities.

I would like to thank the members of our panel from last month's meeting, "Passing the Torch", a discussion on business succession and planning. Our panel consisted of contractor members, who shared their personal business experiences and vendors who educated attendees on the process of selling a business. It was a truly inspiring evening, as attendees gained a new perspective on not only the various ways we "pass the torch", but also the challenges that await many of their businesses as they plan for the future.

Our next meeting will be at Vivaldi Ristorante in Bayside, NY on Thursday, March 3, 2016. We have two interesting presentations planned for the night; Energy Conservation Construction Code and Surety Bonds: How to Put Yourself in the Position to Get Bonded. I look forward to seeing you there and please remember to visit our web site at www.maccny.org for upcoming events.

— **Marc**

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Johnson Controls Sets A New Standard In Chiller Technology, Expands Successful Magnetic-Bearing Chiller Offering

Johnson Controls enhances its portfolio of commercial and residential HVAC/R products with the expansion to 1,000 tons of cooling (3,500 kW) for its successful magnetic-bearing centrifugal chiller line, the YORK YMC2. The larger cooling capacity units address the need for reduced sound, high efficiency and low maintenance while advancing the



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future of chillers through magnetic bearing and oil free technology.

Johnson Controls enhances its portfolio of commercial and residential HVAC/R products with the expansion to 1,000 tons of cooling (3,500 kW) for its successful magnetic-bearing centrifugal chiller line, the YORK YMC2. The chiller uses magnetic levitation technology in its driveline to spin without friction, offering a quieter, more efficient operation. The YMC2 also has a standard variable speed drive to further increase the efficiency of the chiller.

- Sound levels as low as 70 dBA for quiet operation, the same sound level as a vacuum cleaner.
- YORK chillers are known for utilizing industry-leading low entering condenser water temperature to reduce energy usage. The YMC2 chiller is capable of achieving values below 0.1 kW/ton at part load, resulting in a significantly lower utility bill.
- The oil-free design delivers reliable operation and low maintenance, providing a lower total cost of ownership over the life of the chiller.

“The YMC2 chiller is an example of Johnson Controls’ ability to develop innovative solutions to solve our

customers’ challenges,” said Laura Wand, vice president of global chillers, Johnson Controls Building Efficiency Business. “In addition to the YMC2 chiller, our new offerings include a lower-cost air-cooled chiller and smart, connected chiller technology that supports optimized uptime. We have the industry’s best and most extensive product portfolio, and we intend to build on it to enhance our offerings to a diverse customer base around the world.”

The complete YMC2 line now offers units from 165 – 1,000 tons (580 kW to 3,500 kW). To learn more, please visit www.johnsoncontrols.com/ymc2, view www.youtube.com/watch?v=hGr9tzIjnyA.



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Editor's Notes

by Anthony N. Carbone

Verizon "Fios" – Take it or Nothing

The telephone, data, and television race for your business has gone insane. Recently, I have had an experience with Verizon at my home, on one line, where I could hear crackling static. I called for repair several times. I was told the copper lines that supply my home were no longer being supported and that migration to fiber optics on Verizon "Fios" is my only option.

I have a unique situation, with an underground conduit line service to my house. I contacted the Public Service Commission to help me with this behemoth utility that is focused on getting data, television, and phones in my house. After months of letters and many phone calls to Verizon, where they insisted I migrate to the "Fios" system. I resisted this offer and I continued to pay my bill, and again reached out to the Public Service Commission.

Verizon disconnected my service and a recording now states that "this number is no longer in service." Verizon closed my account after twenty-five (25) years. I tried to have Cablevision "port" the line to their COAX Network, which I do have in my in-ground conduit. Verizon blocked this transfer, stating that they took that account away and that it no longer was eligible to be transferred.

I'm not sure what others have experienced, but I feel like a concerted effort by Verizon "Fios" or a conspiracy has occurred to force me into taking this Verizon "Fios" product.

As the saga continued, I decided to have the "Fios" fiber-optics brought in on another line that did not interact with my alarm system providing the fiber is snaked into my underground conduit. The line had worked until I notified them that copper still exists and works in my house with another line. Two (2) days later, it was disconnected by Verizon.

The Verizon crew proceeded to "smash" the conduit running down the pole and cut the six (6) pair cable. They revealed that it was "too cold and possibly frozen in the conduit line. . ." Therefore, they would abandon my request and revert to their own procedure of penetrating the siding and running an overhead line attached to my home, drape it down the side of the house, penetrate the masonry, and re-enter the house to a sixteen by sixteen (16" X 16") inch terminal box that I would now have to provide power for.

Now, I remember Super Storm Sandy. During my twelve (12) days without power I had phone service. The new fiber-optic option would provide me with eight (8) hours of standby telephone service during a power outage. So, not only would I lose the ability to have a house phone during an emergency outage for a prolonged period, but I would also be powering their new device.

In addition, I was immediately contacted by a sales person of Verizon stating that I'm not getting the "best value by accepting only the telephone option. . . I should consider the television and high speed data line. . ."

Now, am I going nuts or is Verizon using a utility subsidized product to sell two (2) other products that the rate payers and the government subsidize? This has to be true, since the Public Service Commission still has jurisdiction over the dial tone, regardless of whether it comes over copper or fiber.

As of now, I am still in a conundrum with this behemoth utility that has failed to provide me with a supervisor to speak with. The endless phone tree and the trained sales staff are totally unaware of anything that is occurring in the field, nor do they care, as they are in a race with cable providers to get your account.

Stay tuned. I hope I can resolve this situation.

— *Anthony N. Carbone*

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Statement From Stuart S. Zisholtz, Esq.

Passing The Burden Of Insurance Cost to Subcontractors

In another twist to try and burden the subcontractors with as much of the expense necessary to build a project, owners and general contractors have come up with a new scheme to try and pass the burden of all insurance costs to the subcontractors.

A new building was built in the Bronx. The owner instituted an owner-controlled insurance program which allowed all contractors and subcontractors working on the project to be insured. In exchange for the insurance coverage provided to them by this program, contractors and subcontractors were required to include in their contracts and subcontracts credits or deductions of amounts to be withheld from the sums due to them in order to offset the costs of their proportionate share of the program.

During the course of the project, as the construction advanced, the scope of the work expanded. As a result, the general contractor began withholding from the subcontractors certain funds to offset the increase insurance costs. Upon completion of the building, when the general contractor finally paid the subcontractors, the general contractor held significantly greater sums to offset the additional costs of the insurance programs.

A subcontractor commenced an action to recover the sums due and owing. The general contractor asserted defenses that the withholding of the various funds was proper and it was permitted to increase the amounts charged back to the subcontractor to reflect the increase costs of the program.

The Supreme Court denied the subcontractor's motion for summary judgment. The Appellate Division, Second Department reversed and awarded judgment in favor of the subcontractor and dismissed the defenses. The basis for the reversal was that the insurance program violated New York State's insurance law. Owners and general contractors

are prohibited from demanding a subcontractor, on a non-public construction project, to pay a premium or related charges for an insurance policy.

An owner or general contractor may provide a policy without reimbursement from the contractor or subcontractor and may require that the subcontractor provide a credit in its bid reflecting the amount the subcontractor would otherwise pay for insurance if it was required to obtain its own insurance. However, provisions in a contract that require post-completion adjustments for insurance premiums are illegal and violate the insurance law. Unlike a credit in a subcontract when initially bid, the adjustments in this case required the subcontractor to reimburse the general contractor for the costs of insurance.

This decision is important because it is another example of an owner and general contractor seeking to pass all costs onto the subcontractors. Thankfully, the Court was able to see through the scheme orchestrated by the owner and the general contractor and award judgment in favor of the subcontractor.

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Ecovent – High Tech Disruptor of HVAC Air Distribution

By John Ottaviano/Airideal

Just as Nest disrupted the thermostat industry with its Nest Learning Thermostat, there is a new tech start-up attempting to solve home comfort and air distribution balancing issues. Ecovent stealthily started up around May 2015, but really debuted recently at the 2016 Consumer Electronics show. This time, the disruptor wasn't developed in Silicon Valley, but in the northeast in Charlestown, Massachusetts. Ecovent markets itself as room-by-room temperature control with automatic adjustable air outlets that open and close based upon feedback received from a plug in room mounted sensor. The Ecovents replace standard supply registers and ceiling diffusers in ceiling, wall or floor models and receive feedback from a smart sensor that doubles as an electrical outlet that plugs into a standard wall receptacle. Multiple sensors communicate with a central "smart hub" that can be integrated with the home WiFi for control.

My immediate initial concerns regarding automatic air outlets that shut off a register while a system is running would be increased static pressure and velocity. In cooling mode, closing off registers could lead to less air movement across the evaporator coil leading to decreased coil temperature and possible freeze ups. However, when researching their site, it is found that the outlets contain pressure, temperature and humidity sensors that prevent issues that could cause noise, temperature, humidity and pressure issues. In rooms with multiple air outlets, a single wall sensor can be set up to control multiple outlets. The entire connected system of multiple outlets and sensors is controlled via a smartphone or tablet app.

Ecovent, like Nest, has gone to marketing directly to the consumer instead of via installing contractors. Obviously, they are making similar claims as to the simplicity of installation that any consumer with a screwdriver and correct WiFi key should be able to perform. However, lowering cost and maintaining margin may be the real reason here as the claim is that an average 4 bedroom home will cost about \$2000 to outfit, depending upon how many rooms, outlets and sensors are required. I priced out my 4 bedroom home and it was more like \$2400. Certainly, this will

be for the high end residential market for consumers who either really want to be on the cutting edge of technology and climate control or for those who have some serious system balancing problems that they have been unable to address with volume dampers. It will be interesting to see how Ecovent manages to find growth and who it's angel capital investors will be. Google gobbled up Nest quickly, perhaps the folks at Ecovent are hoping for a similar outcome. However, this system will really actually be in competition with Nest and WiFi thermostats in general because individual zone control may potentially eliminate the need for smart thermostats with a sophisticated enough Android or iOS app. •

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Weather App Can Increase A Home's Energy Efficiency, Study Finds

National Grid, the largest natural gas distributor in the Northeast, recently ran a customer pilot in residential homes throughout New York, Massachusetts, and Rhode Island comparing homes using smart thermostats and homes using the WeatherBug Home application with their smart thermostats. The results showed WeatherBug Home was delivering three times the amount of energy savings than homes just using a smart thermostat.

The WeatherBug Home application provides neighborhood-level weather reports forecasts and advanced weather alerts, while also tapping connected home data to improve energy efficiency and comfort. It communicates with the smart thermostat to better adjust the HVAC settings for increased energy savings.

The specific findings from the study include:

On a per-square-foot basis, the WeatherBug Home optimized group saved 0.1808 kWh/sqft, compared to 0.0358 kWh/sqft for the control group.

Homes integrated with WeatherBug Home's optimization and controls capabilities more effectively regulated temperatures than homes without these capabilities. Indoor air temperatures for the group with WeatherBug Home optimization controls more closely matched set points compared to the group without that optimization control. •



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Cooling With Metal Muscles: Engineers Develop The Refrigerator Of The Future

Cooling is a hugely important process in today's world. But how can cooling be carried out in future in a way that does not harm the climate and that helps to conserve natural resources? The approach taken by Professors Stefan Seelecke and Andreas Schütze from Saarland University focuses on systems that use shape memory materials, also known as 'metal muscles' or 'artificial muscles'. Working together with researchers in Bochum, they are developing a new method of cooling in which heat and cold are transferred using 'muscles' made from a nickel-titanium alloy. Extensive series of tests have yielded results that are now being used to develop a prototype cooling circuit that will be used to further increase the efficiency of the process. The German Research Foundation (DFG), which has been funding the project for the last three years, has agreed to invest a further 500,000 euros. In total, the project has brought around 950,000 euros in funding to the region.

Cooling is carried out in all parts of the world. Refrigerators operate around-the-clock, air conditioning

units cool offices, cooling systems help to keep computers and motors running smoothly. And the demand for cooling is being driven both by climate change and global population growth. But more cooling systems come at a price – and not just a financial one. Increased cooling means increased consumption of electrical power and therefore higher emissions of greenhouse gases into the atmosphere, driving global warming even faster. A more environmentally friendly cooling method has been developed by the research teams led by engineers Stefan Seelecke and Andreas Schütze in conjunction with the materials scientists Gunther Eggeler and Jan Frenzel at Ruhr University Bochum. The cooling process that they are developing does not require climatically harmful refrigerants and should consume less energy than the conventional cooling technologies used thus far.

'In our systems, shape memory alloys (SMAs) are used to remove heat,' explains Stefan Seelecke, Professor for Intelligent Material Systems at Saarland University. 'Shape memory means that wires or sheets made from a nickel-titanium alloy have a certain ability to remember their original shape: If they undergo deformation, they will return to their earlier shape. So they are able to tense and flex like muscles. The fact that they absorb and release heat when

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they do so is something we exploit to achieve cooling,' explains Seelecke.

If a nickel-titanium wire or sheet is deformed or pulled in tension, the crystal lattice structure can change creating strain within the material. This change in the crystal structure, known as a phase transition, causes the shape memory alloy to become hotter. If the stressed sample is allowed to relax after temperature equalization with the environment, it undergoes substantial cooling to a temperature about 20 degrees below ambient temperature. 'The basic idea was to remove heat from a space – like the interior of a refrigerator – by allowing a pre-stressed, super-elastic shape memory material to relax and thus cool significantly. The heat taken up in this process is then released externally to the surroundings. The SMA is then re-stressed in the surroundings, thereby raising its temperature, before the cycle begins again,' explains Seelecke.

In the experimental and modeling studies carried out so far, the researchers at Saarland University and the Center for Mechatronics and Automation Technology (ZeMA) in Saarbrücken have demonstrated that this type of cooling works and that it can be used in practice. They used a model system to determine how to optimize the efficiency of the cooling process, examining such factors as how strongly

the material has to be elongated or bent in order to achieve a certain cooling performance, or whether the process is more effective when carried out slowly or more rapidly. A thermal imaging camera was deployed to analyze precisely how the heating and cooling stages proceed.

We're currently using these results to construct an optimized prototype for an air-cooling system. We are creating a cooling cycle in which hot air passes over one side of a rotating bundle of shape memory wires. Multiple wires are used in order to enhance cooling power. The bundle is mechanically stressed on one side as it rotates, thus heating up the SMA wires, as it rotates further the SMA relaxes and cools. The air to be cooled is guided past the cold wire bundle, thus cooling an adjacent space,' says Professor Schütze from the University's Measurement Technology Lab. The team of engineers are currently fine tuning the process to optimize its efficiency. 'Further optimization of the cooling process will involve modelling all component stages and then refining these models by comparing the predictions with experimental results. The data from the modeling and experimental work should allow us to determine the ideal number of shape memory wires for our rotating wire bundle as well as the optimum speed of rotation,' explains Schütze. •

Source: Saarland University

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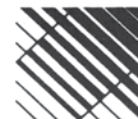
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People & The Workplace

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Non-Solicitation, Non-Compete and Confidentiality in the HVAC Industry

Many smaller employers believe that non-solicitation, non-competes and confidentiality agreements are for larger employers with many employees. That is not the case. Think about your current top producer and then think about if that top producer left your employ and took all of his accounts or clients with him. This would have a much larger impact on a small to medium sized employer. Generally speaking, small and medium sized employers' businesses depend on relationships and referrals to grow and maintain their success. Keeping those clients and company information secure is crucial.

Non-solicitation, non-competes and confidentiality agreements all have very different purposes. The non-solicitation agreement is an agreement where current employees are restricted from soliciting clients and/or employees from their employer when they resign or are terminated. This ensures that the customers of the business that have been obtained and maintained over the years are safe from being pilfered. It further ensures that a key employee cannot resign to start his own business and take your best employees with them.

A confidentiality agreement is drafted to ensure that corporate trade secrets are kept confidential. Trade secrets can be customer lists, pricing, specials, advertising strategies and the like. If a competitor were to find out that you provide a certain customer with a high price due to their location, a competitor could come in an undercut your price marginally which would result in a loss of that business.

Non-competes agreements are the most tricky of the three employment agreements. They are generally drafted to limit the location and time period in which a former employee can work for a competing business. For example, a carpenter who works for a company in Old Town for Old Company decides to quit and work for New Company that happens to be located one mile from Old Company. However, he signed a non-competes agreement which

states that he is not permitted to work for any competitor that is situated within five miles of Old Company for one year. Should Old Company attempt to enforce this agreement it would most likely pass muster as it is for a short duration of time and a specific geographic area. Companies run into trouble when their non-competes agreements are overly broad and fail to impose reasonable limits. In the example above, if Old Company had a non-competes agreement that stated that the carpenter was not permitted to work as a carpenter in Old Town and New Town for a period of five years, this agreement would most likely not be enforced by the court. The geographic range and time period would essentially prevent the carpenter from working as a carpenter unless he moves, which is not reasonable.

Courts will generally not enforce an agreement which would make a former employee's ability to earn a living impossible. Private agreements are typically enforceable on their terms, however they are unenforceable when they violate public policy, running afoul of fundamental principles of justice. Each state has its own distinct laws about whether such types of agreements are enforceable. New York, for example, has strong public policy in support of an individual's right to pursue one's profession or livelihood, so courts in New York, by and large won't entertain a non-competes agreement that is beyond two years in duration.

Employers consider using the aforementioned agreements. Many employers only learn about the protections they could have implemented by the time it's too late.

In our next article we will discuss the situation when termination without cause occurs and there is a pre-existing non-solicitation, non-competes and/or confidentiality agreement. Some courts are hesitant to enforce these agreements when an employee is involuntarily discharged without cause. Stay tuned. For more information on non-competes, non-solicitation and confidentiality agreements, please feel free to contact me at ABPearl@pmpHR.com or call 516-921-3400. •



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Vulnerabilities In Trane Thermostats Heat Up IoT Safety Concerns

The threat intelligence research organization Talos disclosed a trio of dangerous Internet of Things (IoT) vulnerabilities that were discovered and subsequently patched in smart thermostats manufactured by HVAC company Trane.

Researchers from Talos, an offshoot of Cisco Systems, first discovered flaws in the connected thermostat — sold under the brand new ComfortLink II — in April 2014. Trane patched two of the bugs in April 2015 and fixed the third vulnerability as of Jan. 27, 2016.

The vulnerabilities could have allowed bad actors to remotely access and operate the thermostats, as well as trigger arbitrary code to use the device as conduit for local network and external network attacks, Talos said in a blog post. The research group also recommended that ComfortLink II owners update their firmware immediately, as it was unclear if Trane had “effectively communicated the necessity of installing these updates to their customers.”

“While IoT devices such as smart thermostats, home

lighting and security systems bring an added level of convenience into our lives, these vulnerabilities highlight the dangers of insecure development practices,” Talos cautioned. — *SC Magazine* •

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OSHA to Introduce More Durable and Secure Outreach Trainer, Student Cards

The U.S. Department of Labor's Occupational Safety and Health Administration is introducing more durable and secure completion cards for its Outreach Training Program, including 10-hour and 30-hour voluntary safety classes. The new cards are intended to reduce fraud and improve efficiency.

After Feb. 29, completion cards will be made of a more durable card stock – like a credit card – with authorizing logos, a watermark when copied and a QR code for authentication.

Trainer cards will include trainer name, trainer ID number, expiration date and OTI Education Center where the trainer was authorized. Student cards will have student name, trainer name, date of issue and the OTI Education Center which produced the card.

The OTI Education Centers will maintain an electronic

database of authorized trainers and students who have completed the 10- and 30-hour classes. This will allow employers and workers to authenticate their card with the use of a QR code on each card. OTI Education Centers will charge \$8 each for the new cards, compared to \$5 for the current paper cards.

Workers who already have 10-hour and 30-hour cards do not need to change over to the new cards. They may choose to purchase a new card by contacting the trainer who conducted the class, but only if the course was taken within the past three years. The new cards will be issued for in-person training sessions only. Online courses will continue to be offered by authorized providers, but students who complete online training will continue to receive paper cards at this time.

The cards are expected to reduce fraud because their more durable stock will be more difficult to copy. Also each worker card will have verifiable information, including ways to contact the trainer who conducted the course. They are expected to increase efficiency because the new process will reduce the number of days it takes to request and process cards.

For more information on OSHA's voluntary Outreach Training Programs, visit <https://www.osha.gov/dte/outreach/index.html>. •

Employers Must Post Injury And Illness Summaries Now Through April: OSHA

OSHA reminds employers of their obligation to post a copy of OSHA's Form 300A, which summarizes job-related injuries and illnesses logged during 2015. The summary must be displayed in a common area where notices to employees are usually posted each year between Feb. 1 and April 30.

Businesses with 10 or fewer employees and those in certain low-hazard industries are exempt from OSHA recordkeeping and posting requirements. As of Jan. 1, 2015, certain previously exempt industries are now covered. Lists of both exempt and newly covered industries are available on OSHA's website. Visit OSHA's Recordkeeping Rule webpage for more information on recordkeeping requirements. •

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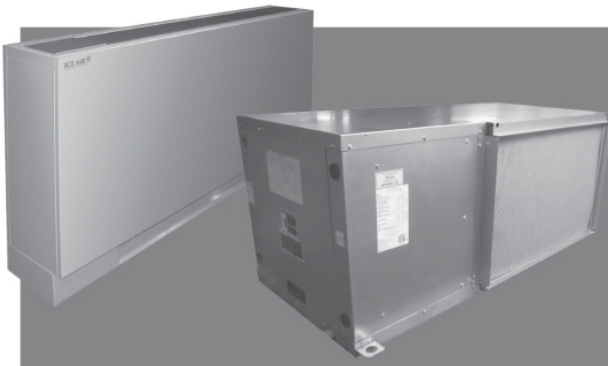
MACC MEETING FEBRUARY 11 – PASSING THE TORCH





MACC directors meet in early February to plan upcoming meetings, including March 3rd which will consist of a Powerpoint that MACC's Greg Singer and John Ottaviano are developing on State and City Energy Conservation Construction Codes that apply to HVAC contractors Also, a Powerpoint presentation on Surety Bonding by Yannis Legakis of Skyline Risk Management of Flushing.

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