The Official Newsletter of T.E.C. Systems

T.E.C. NEWS QUARTERLY

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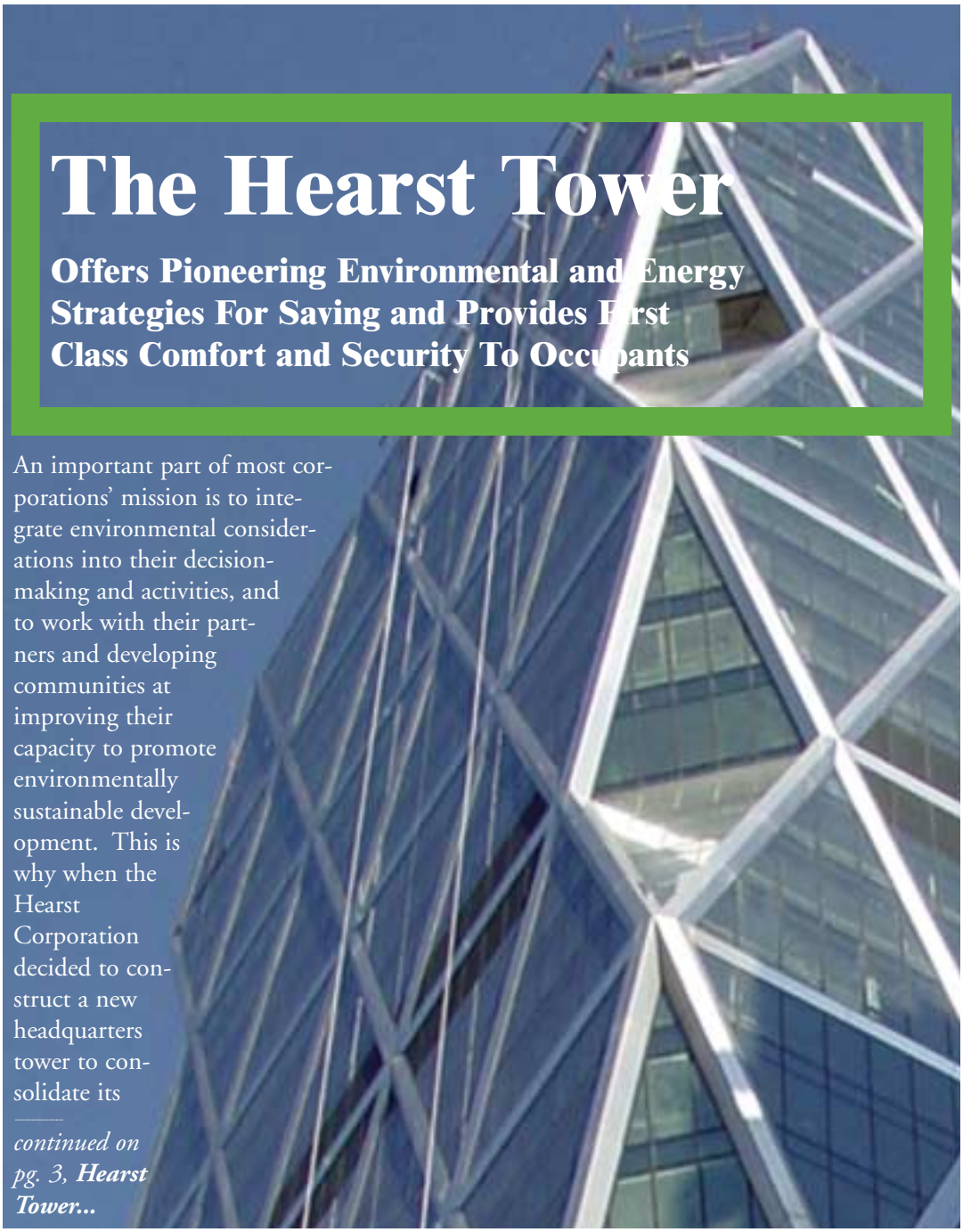

The Hearst Tower

Offers Pioneering Environmental and Energy Strategies For Saving and Provides First Class Comfort and Security To Occupants

An important part of most corporations' mission is to integrate environmental considerations into their decision-making and activities, and to work with their partners and developing communities at improving their capacity to promote environmentally sustainable development. This is why when the Hearst Corporation decided to construct a new headquarters tower to consolidate its

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Inside this issue:

T.E.C. SYSTEMS, INC.

SERVICES OVERVIEW

T.E.C. Systems provides building automation design, installation and commissioning solutions that developers, owners, and consulting engineers turn to every day. As a client of T.E.C. Systems, you'll be connected to a network of dedicated and experienced professionals. And, its local office keeps you in touch with the best people and the best practices industry-wide. T.E.C. Systems is also information, ideas and insight that you can use everyday, along with the knowledge that helps you grow and meet your facility needs.

What's New?

Honeywell Completes Acquisition of Tridium

Honeywell International, Inc. has announced its successful acquisition of Tridium, a leading developer of cost-effective, flexible, and web-enabled building control technologies. "As a current business partner of Tridium, Honeywell has gained significant insight into the potential of this technology. We are eager to drive forward with the vision of Tridium to become a multi-industry standard for machine-to-machine communications and controls," said the company in a press release to the media. The company plans to immediately leverage the Tridium brand across the Honeywell building automation businesses.

2005 Review/Coming Up In 2006 and Beyond

The upturn is no longer elusive, and although challenges remain, sustainability is finally "LEEDing" the buildings industry

As 2006 dawns, advances in technology, science, and automation will continue to change the face of facilities management, challenging business and institutions to transform or risk being left behind. The vision of the Buildings Industry is one that is high on sustainability, thanks to capabilities made possible by "Green" technologies and models such as the United States Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) Rating System®. On the horizon, for 2006 and beyond, is a great expansion and creation of a new wave of environmentally friendly commercial buildings. To date, 127 publicly-traded companies have at least one LEED building, but there remains much work to be done; a sentiment echoed by USGBC CEO Rick Fedrizzi. During the opening keynote session of the 2005 Greenbuild International Conference and Expo in Atlanta, Georgia, Fedrizzi emphasized that one building is not enough, and urged companies to make an organization-wide commitment to sustainability. To help the cause, the USGBC is working with 11 corporations and institutions, including Bank of America, Citigroup, Toyota, PNC Bank, and Syracuse University, to develop a "portfolio-wide" LEED program that will aggregate environmental performance across entire building portfolios. Locally, the City Council of the City of New York enacted into law legislation mandating more stringent environmental standards for the construction and rehabilitation of municipal buildings, including schools, hospitals and City offices. The City owns an approximate 1,300 buildings and leases more than 12.8 million square-feet of office space, and the law, which goes into effect on January 1, 2007, will affect approximately $12 billion in construction, including $5 billion in new schools, over the City's 10-year capital plan. In the commercial sector, the City saw the completion and rise of its first and second LEED Gold buildings, respectively. Under LEED's core and shell program, 7 World Trade Center is presumed to be the City's first commercial building to qualify for a LEED Gold rating, the second highest attainable level. The Hearst Tower, expected to be complete in June of 2006, is anticipated to follow suite and become the second commercial tower to achieve such a prestigious honor. Further on the horizon for the City of New York is what has been preordained to be "the world's most environmental friendly" building; The Bank of American Tower at One Bryant Park, which will be seeking a platinum rating from the USGBC, the highest attainable level.

INDUSTRY EVENTS

Energy Efficient Technologies for Government Buildings—New and Retrofit
January 19 – 20, 2006
Chicago, IL USA
Cosponsored by ASHRAE
Contact organizers at 217-373-4519

International Air-Conditioning, Heating, Refrigerating Exposition (AHR Expo)
January 23 – 25, 2006
Chicago, IL USA
Cosponsored by ASHRAE and ARI
Contact International Exposition Company at 203-221-9232 or www.ahrexpo.com

MCAA Annual Convention
March 19 – 23, 2006
Maui, HI USA
Contact the Mechanical Contractors Association of America at 301-869-5800 or www.mcaa.org

ACCA Conference & Indoor Air Expo
March 28 – 30, 2006
San Jose, CA USA
Contact the Air Conditioning Contractors of America at 703-575-4477

Architectural Engineering National Conference
March 30 – April 2, 2006
Omaha, NE USA
www.asce.org/conferences/aei06

Hearst Tower Sets New Standard In Environmental Sustainability

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publishing businesses, environmental stewardship was the foundation on which the facility would be built. As a result, the Hearst Tower is expected to become just the second "Green" commercial building within the City of New York to be certified under the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) program - expected to receive a LEED Gold rating.

LEED Gold: An Important Recognition For The City Of New York

The City of New York is the most populous city in the United States, the most densely populated major city in North America, and the center of international finance, politics, entertainment, and culture. The city serves as an enormous engine for the global economy, and is home to most of the Fortune 500 companies, including the Hearst Corporation, the world's largest publisher of monthly magazines, including Cosmopolitan, Esquire, Good Housekeeping and Harper's Bazaar. Historically, because of its industry, commerce, and communication intensive childhood, this great city has never been considered one of the nation's most environmentally friendly places. But, as the heart of the New York Metropolitan Area, which is one of the largest urban conglomerations in the world with a population of over 22 million, The City of New York is sprinting into the 21st Century as the model urban habitat. With an Administration full of "Green" initiatives, including a new law mandating some of the most stringent environmental standards for the construction and rehabilitation of municipal buildings in the country, the city has ceased its long standing war with nature and embraced the concepts of sustainability. Complementing the administration's sustainable goals, are the commercial and business population inhabiting the five boroughs that make up the New York City proper, particularly large real estate holders such as the Hearst Corporation, which, for the most part, have embraced sustainable development as an integral part of their business plans and a critical new component of operational strategy. Such commitments by the City and progressive organizations like Hearst, have affirmed that responsible energy use is fundamental to sustainable development and a sustainable future.

Tower Reaches New Heights In Environmental Design

The new headquarters, which is slated for completion in June 2006, will complete Hearst founder William Randolph Hearst's vision for a world-class building at the site. Rising 597 feet, and encompassing a total of 856,000 sq.-ft., the tower will preserve the six-story façade of the landmark Hearst-built headquarters designed in 1927. The expansion will allow the company to address space constraints and environmental issues; the new building will permit Hearst to consolidate its New York operations and ensure its 2,000 employees

Photo courtesy of Rubenstein Associates, Inc., New York, NY

remain in the city. The facility has been built using principles of environmental architecture, including the recycling and reutilization of 85 percent of the original structure.

Architect Lord Norman Foster's complex diagonal grid ("diagrid") design, which creates a series of four-story triangles on the façade, uses no vertical columns, a first for North American office towers, and consumed approximately 20 percent less steel compared to a typical office building. The facility sports a high-performance building envelop and other features such an innovative type of glass, with a special Low-emittance coating that will allow for internal spaces to be inundated with natural light while limiting entry to the invisible solar radiation that causes heat. Interconnected to the glass is an integrated system of light sensors that will control the amount of artificial light on each floor based on the amount of available daylight. The tower will also make use of occupancy sensing technology to manage the usage of lights and computers; allowing them to be turned off when a room is vacant. The facility also features the latest in water conservation and energy efficiency. The building's roof has been designed to collect rainwater, which will be used to replace water lost to evaporation in the office air-conditioning system as well as used to irrigate plantings and trees inside and outside of the building.

Scalable Technology Will Enable Cost-Efficient Operation and Provide A Competitive Edge In Property Management

A striking addition to the New York City skyline and among the "Greenest" buildings in the country, the Hearst Tower was designed to offer unmatched flexibility and efficiency. The entire complex will be connected and function through the latest in high-speed fiber optic information technology network and a fully integrated Honeywell SymmetrE™ Building Automation System (BAS) by T.E.C. Systems, Inc. The high level of

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innovation displayed in other areas of the project, necessitated a need to create a state-of-the-art technological infrastructure which could be scalable to future information and building management technology developments. T.E.C. Systems' response was a single-source solution as the central point of control for every building system. The SymmetrE™ system monitors and controls systems for temperature, mechanical and electrical service and distribution systems, including lighting controls, emergency generator, fire protection, and uninterruptible power supplies. The facility features an unconventional HVAC system, including using high efficiency heating and air-conditioning equipment that will utilize outside air for cooling and ventilation for 75 percent of the year, to replace standard air-conditioning installations. In this regard, T.E.C. Systems provided direct digital control (DDC) systems for a sleuth of mechanical equipment, including air-handling units, chillers, cooling towers, cooling tower make-up system, expansion tank make-up system, fuel oil system, and a Con Edison vault and transformer ventilation system. Aside from the HVAC automation, T.E.C. Systems facilitated integration of the SymmetrE™ system with the facility's life safety system, which includes a FireCom fire alarm system. Connection to FireCom control panels is enabled via a LonWorks® interface to the BAS, which will allow for direct communications and control of the fire/smoke damper controls.

Integrated Systems To Reduce Cost and Streamline Facility Performance

The SymmetrE™ system will enable the integration of all building functions and systems across a single scalable technology platform, and will provide a way to efficiently measure and manage environmental comfort and energy usage. The basic platform for the integrated solution is the Ethernet technology and TCP/IP compatibility of the SymmetrE™ system. The use of open protocols and standards in the BAS ensured that the Hearst Tower's development team was able to choose the best solutions for creating an intelligent building with minimal drawbacks in connectivity or features. The system will respond to emergency conditions, optimize operational strategies, and will share data and send commands to thousands of monitoring and control points. Two custom graphical-user-interface workstations will serve as command central for the management of the entire BAS network. Through the BAS, facility managers will know all systems are working effectively and remain informed about indoor environmental air quality and operational efficiency around the clock.

Achieving LEED

To meet its goal of achieving a LEED Gold Rating from the USGBC, credits for environmental features at the new facility will be centered on five established principles: Sustainable Sites, Water Efficiency, Energy and Atmosphere, Materials and Resources, and Indoor Environmental Air Quality. These base principles allude to the understanding that energy management must balance justifiable energy demand with appropriate energy supply. The process couples energy awareness, energy conservation, and energy efficiency with the use of primary renewable energy resources.

Nationwide, dozens of residential and commercial buildings, ranging from single-family homes to large corporate headquarters, have been designed and constructed utilizing sustainable principles. But in particular, the Hearst Tower sets a new standard in environmental sustainability. The design will provide modern, flexible, open office spaces, readily adaptable to accommodate to future organizational changes and technological advances in office equipment, work space environments, and building energy management and control systems. By incorporating the U.S. Green Building Council's Leadership in Energy and Environmental Design program into this project, the Hearst Corporation as well as the City of New York will realize multiple benefits. For New York City, the benefits from the Hearst Tower will include significant reductions in pollution and increased conservation of the City's resources, particularly water and electricity. For employees of the Hearst Corporation and visitors to the new facility, this means a healthier, more comfortable and productive working environment.

At a glance

- One of the "greenest" buildings in the country.
- The "diagrid" frame of the Tower will contain roughly 20% less steel than would a conventional perimeter frame — saving approximately 2,000 tons of steel.
- Daylight sensors to control lighting and reduce energy use.
- Over 85% of structural steel contains recycled material.
- Gross Area: 856,000 ft² / 79,500 m²
- Building Height: 597 ft (182 m)
  Number of Stories: 46

- **Architect: Foster and Partners**
- **Associate Architect: Adamson Associates**
- **MEP: Flack & Kurtz**
- **Lighting: George Sexton**
- **Development Manager: Tishman Speyer Properties**

In The Spotlight

AHR EXPO®
McCormick Place North & South Halls
Chicago, Illinois • January 23-25, 2006

AHR Expo is "the HVAC&R Industry Show" - the world's largest HVAC&R trade show event for professionals to buy, sell, network and learn.

AHR Expo is the premier launching pad for new product introductions, partnerships being formed and companies getting their start doing business in the industry.

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