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Q3 – 2008

THE OFFICIAL QUARTERLY NEWSLETTER OF RELIABLE CONTROLS® CORPORATION

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VIRTUAL ENERGY FORUM

Reliable Controls® was pleased to participate in the inaugural Virtual Energy Forum, a two-day, online event which took place June 10th and 11th.

The Virtual Energy Forum focused on how leading companies and institutions can adopt better energy management practices to improve efficiency and cut costs while in the same breath implement clean energy alternatives. The event was designed to meet the needs of corporate energy executives in a way that was not possible with physical events, webinars, or other means. Best of all, the Virtual Energy Forum was free to attend!

The event attracted an excellent and comprehensive roster of speakers who were interviewed live online, and responded to questions submitted online by the attendees. Notable speakers included Massachusetts Senator John Kerry, former Speaker of the House, Newt Gingrich, Illinois Senator Barak Obama's Energy Advisor, Howard Learner, and former CIA Director, Jim Woolsey.

The event featured:

- Live streaming video presentations from energy efficiency and alternative energy leaders, including real-time Q & A with senior energy executives from Marriott, Nike, Raytheon, and the U.S. Department of Energy.
- Virtual booths and exhibit floor featuring over 50 leading technology product and service providers, attendees, and exhibitors, via live chat, and
- Industry-specific tracks of live video and panel presentations that presented green case studies in industries such as consumer products, healthcare, government, education, retail, and high technology.

The live streaming video crashed a few times during the more popular events, but overall the technology held up and the event was a great success.

The Virtual Energy Forum was a unique marketing and communication platform for connecting leaders in clean energy products and services with companies from around the world. Reliable Controls® was proud to be a sponsor of this ground-breaking event which saw over 300 unique visitors come to our virtual display booth in the exhibition hall.

Compared with convention and expo attendees, Virtual Energy Forum registrants saved nearly 12 million lbs of CO_2 in airplane, hotel, and automobile emissions. Be Green; Support Online Events.

WWW.VIRTUALENERGYFORUM.COM

If you would like to share your comments about this newsletter, or any other literature produced by Reliable Controls®, please contact marcom@reliablecontrols.com

GSBC
GREEN SUSTAINABLE BUILDING CONTROLS
CONFERENCE BROUGHT TO YOU BY BACnet & ES

Interested in how to best incorporate sustainability into your facilities?

Green doesn't happen by accident and sustainability is not an entitlement. Effective strategies for today's world require integrated, flexible controls built on industry standards.

Participate in this ground-breaking industry event to see how others have incorporated sustainability and learn how you can too. Attending the GSBC conference in Dallas will supercharge your "green IQ" and build your sustainability toolkit by participating in this must-attend educational event.

Reliable Controls® is proud to be one of only three platinum-level sponsors for this event. And in addition, we will be participating in a panel discussion entitled, *Projects that LEED with BACnet*. Our presentation will highlight how BACnet® has helped to achieve LEED certification at Dockside Green in Victoria, British Columbia.

Register today for this exciting learning opportunity. Registrants who commit by July 30th are entitled to an early-bird special which includes full 3-day seminar access, full exhibition hall access, full conference proceedings on CD-ROM, conference meals (continental breakfast, luncheon, and afternoon breaks), attendee handbook, and access to the networking reception. See you there!

BACnet® International

Learning opportunities include:

Face-to-face visits with manufacturers and service providers who incorporate BACnet® in new products, technologies, and standards,

Workshops and case studies to illustrate the application of intelligent and high performance buildings,

Networking sessions to share best practices and pursue new business opportunities,

Find out: How to deliver on your organizational goals for efficiency and sustainability,

How BACnet® can contribute to meeting LEED project goals, and

How green and intelligent building technologies and practices are changing the Dallas cityscape.

September 22–24, 2008

The Fairmont Dallas · Dallas, Texas

The Fairmont Dallas has, for nearly forty years, taken its place as the standard of elegance and grand style. Making its home in the Dallas Arts District, The Fairmont Dallas is just minutes from the Central Business District, Victory Park (home of the American Airlines Center), the Financial District, outstanding culture and entertainment activities of The Arts District, the West End Historic District known for its shopping and lively restaurants as well as the exciting upscale shops,

www.bnpevents.com/ES/BACNET/

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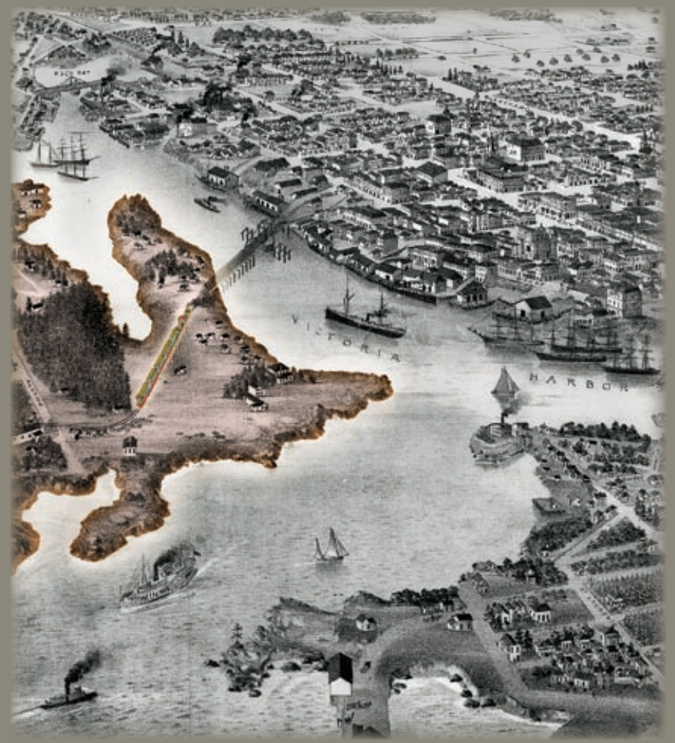


BACnet Empowers Green Living

Step back over a century to the year 1889. The place is Victoria, the provincial capital of British Columbia. On the eastern shore of the inner harbour, the oldest city in Western Canada is turning 46 years old and the bustling streets clear a corridor for a new electric tramway. On the harbour's western shores, the lands adjacent to the water are home to a variety of interests, including a string of privately-owned shipyards, a marine hospital, and the sprawling Songees First Nations Reserve. The reserve is bisected by a commuter train chugging down the tracks toward downtown Victoria. What can be seen in this grainy portrait from the Victorian era is a scenario of mixed land use where residential and light industrial functions live side by side with the hint of environmentalism lingering in the air in the form of a commuter train.

Jump forward a century to 2008 and the same fundamental relationship holds true on the banks of Victoria's western inner harbour. The native reserve has been relocated, some of the ships built in the shipyards have been moved into museums, and the train has been reduced to a one car commuter, but a new development has risen from the remediated brownfields to garner international attention – Dockside Green.

Built on 15-acres, Dockside Green is a 1.2 billion dollar development fast becoming a leading eco-residential and eco-industrial development, earning the world's first platinum LEED-ND (Neighborhood Development) certification. In all, twenty-four buildings at Dockside Green will pursue LEED Platinum certification, an elite designation currently held by a handful of buildings in the world. As a model for green living, the Dockside Green community will exceed almost all of the current environmental performance standards for green buildings in Canada. And the Reliable Controls® MACH-System with BACnet® protocol plays a pivotal role in helping Dockside Green forge the path to sustainability.

The scope of the Dockside Green development spans 1.3 million square feet of mixed residential, office, retail, and light industrial space, and when the community is complete in the later-half of the next decade, Dockside Green will already have made a strong impact on the international scene as a model for holistic design. The site's multi-use components will function as a total environmental system. Form, structure, materials, and mechanical and electrical systems will be interrelated and interdependent. The defining goal at Dockside Green is to be a self-sufficient, planned community, in fact, a net-zero energy use community

where waste from one area will provide fuel for another. Innovative energy-saving measures abound throughout the development, including a centralized waste wood biomass gasification plant for providing clean, renewable heating, a dedicated onsite sewage treatment plant, a naturalized storm water treatment system, residential power metering, extensive onsite tree planting and green roofs, the use of environmentally friendly building materials like fly ash cement and cork, bamboo, and eco-carpet flooring, the birth of onsite parks and rejuvenation of shoreline habitat, and the incorporation of products from the bio-regional economy. Designs also include human elements such as the development of an affordable housing strategy, a First Nations job training program, and the commissioning of First Nations art, including a grand totem pole. When complete, green spaces punctuated by waterways and walking trails will carpet this sustainable community which will also feature a smart® car sharing program, mini-transit system, boat launch, bike trail, amphitheater, public art, and dock facilities.

These bold initiatives have both the power-suit gang and the Berkinstock crowd seeing green, but how will the developers achieve this grand design? A robust *triple bottom line* development model was endorsed in which developers balance financial profits with environmental and social dividends. The term *triple bottom line* was originally coined by John Elkington in 1994 and was later expanded and articulated in his 1998 book, *Cannibals with Forks: the Triple Bottom Line of 21st Century Business*. According to Joe Van Belleghem, Development Manager for Dockside Green and founder of the Canada Green Building Council, "We wanted to demonstrate that it is possible for developers to embrace ecological regeneration and social principles in a development while being economically successful."

The BACnet® protocol is an important contributor to the triple-bottom line model employed at Dockside Green. It offers financial, sociological, and environmental returns. The financial return on investment of BACnet® is well-recognized with an open international standard that can never become obsolete, and is extendable by the consensus of ASHRAE members and volunteers. By its very nature, BACnet® the Building Automation Control network protocol, monitors and controls building operational efficiency and comfort, and in doing so, pays an environmental dividend of reduced energy consumption and conservation of water. The rich diversity of objects, services, and networks within BACnet® delivers outstanding communication ability. This provides meaningful performance data to be quickly gathered, calculated, and communicated to the occupant so they can readily view the impact of their behavior, and in doing so, allow them to make healthy and informed choices.

The Reliable Controls® MACH-System installed in the development's first two phases, *Synergy* and *Balance*, have already begun to closely monitor and control each residential unit's environment and keep an account of the tenant's carbon footprint. In addition to local access within the individual suite, residences have web access to their suite's environment control system from anywhere around the world using the Internet. Communicating energy, water, and carbon consumption to each occupant is an important aspect of a sustainable community and allows people to make better choices.

www.docksidegreen.com

A Natural Progression

If we dare to look outside the recycling box and take a peek at where the green building movement is going, it is easy to see how green neighbourhood developments such as Dockside Green in Victoria, British Columbia are building the path for a natural progression toward green cities. And given the current climate in which dwindling energy resources mingle with innovative thinking, ground has already been broken on the green cities of tomorrow...

Masdar – Abu Dhabi – United Arab Emerates

www.masdaruae.com/text/broc-coll.aspx

Launched in 2007, Masdar is a 6 km² sustainable development that uses the traditional planning principals of a walled city, together with existing technologies, to achieve a carbon neutral and zero waste community. Masterplanned by British architects Foster + Partners, the initiative to build Masdar has been driven by the Abu Dhabi Future Energy Company in the hopes of providing a catalyst for the development of new ideas in energy production. This ambitious project has already attracted the highest levels of international expertise and commerce, providing a mixed-use, high-density city that will feature a new university, the Headquarters for Abu Dhabi's Future Energy Company, special economic zones, and an Innovation Center.

Borrowing on models from the past, Masdar will be developed as a dense walled city which will be constructed in an energy efficient two-stage phasing that will feature at its core, a large photovoltaic power plant. Strategically located near Abu Dhabi's transport infrastructure, Masdar will be linked to surrounding communities, as well as the center of Abu Dhabi and the international airport, by a network of existing roads and new rail and public transport routes.

To deliver on its carbon neutral ambition, the city will be car-free. With a maximum distance of 200m to the nearest transport link and amenities, the compact network of streets encourages walking and is complemented by a personalized rapid transport system. The shaded walkways and narrow streets will create a pedestrian-friendly environment in the heart of Abu Dhabi's extreme climate. Along with carefully planned expansion, the surrounding land will contain wind, photovoltaic farms, research fields, and plantations, so that the city will be entirely self-sustaining.

visit www.reliablecontrols.com/greencities ... to learn more

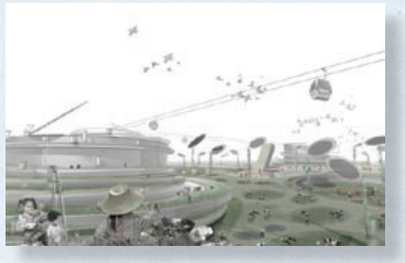
Dongtan – Shanghai – China

www.arup.com/eastasia/projects.cfm

Billed as the world's first eco-city, which will be sustainable not just environmentally, but also socially, economically, and culturally, Dongtan's goal is to create an urban development with low energy consumption that is as close to carbon neutral as possible.

Dongtan is located on the third largest island in China at the mouth of the Yangtze River. The 86 km² island is dominated by a wetland which will act as buffer between the urban development and the natural world. Dongtan will produce its own energy from wind, solar, bio-fuel, and recycled city waste. Clean technologies such as hydrogen fuel cells will power public transport. A network of cycle and footpaths will help the city achieve close to zero vehicle emissions. Farmland within the Dongtan site will use organic farming methods to grow food. The city will consist of three villages, with the demonstrator phase for up to 10,000 people completed by 2010.

Guangming Smart-City – Shenzchen – China



www.ucl.ac.uk/news/news-articles/0703/07032301

Guangming Smart-City covers 8 km² near Shenzhen, China and provides a new urban typology beyond the conventional eco-city. The Smart-City is designed to provide housing for 200,000 inhabitants while continuing an agricultural tradition that runs deep in the surrounding territory. Lush grazing and arable land will be incorporated into the roofs of the huge circular towers that make up the city. Additional land for crops dispersed throughout the city will be made available on a series of eighty vertical farms in 10 m² allotments that will be cantilevered off a central spine and stacked one above the other like the branches of a giant tree. Housing will be arranged in human-scale clusters of housing/farming suburbs in the form of towers and craters with each suburb offering a self-sufficient, individual character. Sky-buses will provide a quick hop between urban centers, while in the center of the city, residents will be able to enjoy an artificial beach and a canal leading into the revitalized Maozhou River where a reed bed water filtration system has recently been introduced. Existing lychee orchards will acts as a air filter for the city.

Solutions for sustainability

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