

The Metropolitan Update

**Metropolitan
Industries, Inc.**



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GROWTH THROUGH INNOVATION

As you could readily detect from our first newsletter, Metropolitan Industries, Inc. is moving forward in many different and progressive directions. We are doing so to better serve *you*, our customers, as *your* businesses and operations continue to grow and expand. And, as we all know, today's business environment becomes more complicated and difficult seemingly from day to day. Worse still, profit margins are declining, often in direct comparison to a company's maturity.

Which brings me to the subject of this article: *Growth Through Innovation*.

We all recognize that present technology is proceeding at a breakneck speed. By investing in and using the very latest technology, we of Metropolitan Industries believe we can deliver the competitive advantage to our customers — and thus ourselves. Through your input and that of our own employees, we have been focusing on several dramatic new products that are a direct result of our investment in technology — and the future.

These products will be of practical and vital benefit in such areas as motor protection, variable speed controls, wet well level control, constant pressure control and monitoring in systems, auxiliary power supplies, and so forth. You will witness these products in

future newsletters as they come to fruition and are made ready for market.

Our *Growth Through Innovation* stems from our state-of-the-art niche products that our competitors do not have and can not duplicate because of our patents. But our concentration on innovation has not lessened our focus on providing you with cost-effective products, so that we become partners, so to speak, in your success and advancement into new markets.

One of the significant ways we are putting technology to work for us to better serve you is through the packaging of pump systems. Our single source responsibility starts with the custom designing of your system from the ground up through the selection, securement and installation of all necessary parts and equipment, and the complete and professional servicing of all the systems we design and sell. Depending on the type of system you require, we can provide a prepackaged skid or as many separate components as necessary, as you will see from reading the stories in this newsletter. To paraphrase an adage, the only limit to what Metropolitan Industries can provide you is your imagination.

Along with this issue of *The Metropolitan Update*, we have included a complete listing of the key personnel within the various sales divisions of Metropolitan

Industries, Inc. for your information. We provide telephone and extension numbers as well as fax numbers to help assure you will reach the proper individual or individuals to assist you in a prompt and efficient manner. Should you have any questions or require special service of some kind, please feel free to ask.

I urge you all to explore emerging technologies as we do to find ways to apply them and benefit from them in your daily activities. Good luck and good reading!



Sincerely,
Metropolitan Industries, Inc.

John Kochan, Jr.
President

McCormick Place Expansion Gets a “Boost” From Metropolitan

This year, Chicago's McCormick Place completed an extensive expansion project designed to assure that the massive convention center complex remains in its premier position within the trade show industry. Environmental Systems Design, Inc. (Chicago) provided total mechanical, electrical and plumbing engineering support. The project goal: to construct a cost- and energy-efficient, state-of-the-art facility, one that was not only highly reliable but exceptionally flexible as well, to meet the ever-changing demands of both exhibitors and building operations.

“The McCormick Place project is by far the largest domestic system our company has ever been involved in,” proclaims John Bukalski, ESD Vice President, who supervised the plumbing engineering. The expansion added 875,000 square feet of exhibit space — 2.2 million square feet of combined exhibition and support space in all with the new South Hall and Galleria. The ESD team headed by Bukalski and including Michael Cwanek, Senior Associate, and Phillip Blazik, Associate, were in charge of the ambitious expansion. Their decision concerning the plumbing aspect was clearcut.

“When you select an organization for a job of this size and complexity, you have to rely on that company to furnish the proper instrumentation and equipment. Besides responsibility for fabrication, Metropolitan offered much-needed in-depth engineering expertise,” John Bukalski adds.

“As far as ESD is concerned, Metropolitan Pump was and is the only real choice,” states Michael Cwanek. “Metropolitan provides the most current technology and by far the best service. The company made an invaluable contribution through its control expertise from an energy-savings standpoint.”

Brendan Bates, Commercial Sales Manager for Metropolitan Pump, was the “inside” man responsible for coordination and implementation of the expansion project. “The booster system was completely designed, manufactured and programmed



The McCormick Place expansion added 2.2 million square feet of exhibition and support space.

within our facility utilizing state-of-the-art processes,” Brendan relates. “Very few companies can offer the in-depth capabilities of Metropolitan Pump — an ability we are very proud of.”

“For us, very simply, Metropolitan Pump was the only pump systems company that could design, develop and construct a pumping system of this magnitude,” John Bukalski states. For the expansion, a Quadraplex Booster System was employed with a capacity of 4,100 GPM using one 50HP variable speed lead pump and three 100HP constant speed main pumps. According to Michael Cwanek, the variable speed pumping system is most important because proper pressure is achieved by changing the pump's speed. If the pump operates at a point lower than its peak horsepower in response to a system's varying pressure requirements, the difference between design or peak operating and lower pump horsepower is a decided reduction in energy use which equals a definite reduction in operating cost.

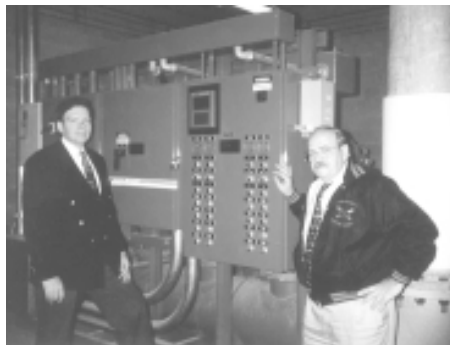
Union Local 130 Plumbing Contractors were employed to handle the fabrication of the water pressure booster system.

In addition, 88 2” Bermad 700-series Pressure Regulating Valves were installed in the exhibition floor support columns to control nearly 900 floor boxes. Two 4” Bermad 700-series PRV's were also installed,

along with two duplex sets of Hydromatic submersible sewage ejectors and one duplex set of self-priming pumps.

“Basically, the size of the project made it so unique,” John Bukalski concludes. “The pumps handle several thousand feet of piping — an untypically lengthy installation, and a horizontal application as opposed to the usual vertical system. Some of the transducers controlling system pressure were installed at a point farthest away from the pumps themselves, yet function perfectly.”

After completion of the installation, three Metropolitan Pump engineers went on-site for a thorough inspection and fine tuning of the equipment. In Chicago, “progress” is spelled with a capital M — for McCormick Place ... and Metropolitan.



Pictured are ESD Vice President John Bukalski (right) and Senior Associate Michael Cwanek next to the McCormick Place booster system.

For Clinton, Iowa, Flood Protection Takes Center Stage ...with Metropolitan a Principal Player

Almost from its inception, the city of Clinton, Iowa has been in deep trouble, flooding-wise, thanks to its site on the banks of the Mississippi River, chosen for its convenience to water and rail transportation. With Metropolitan Industries' recent assistance, Clinton has been free of flooding, even during the great Mississippi River flood of 1993. Clinton was founded in 1856 on the west bank of the Mississippi. Early city development centered on a broad area of flat ground near the river and only a few feet above river water levels. Early on, Clinton utilized six natural creeks to convey drainage and sewage to the Mississippi, but the land was difficult to drain through these creeks alone. In 1895, the city constructed sewers that



Metropolitan was responsible for on-site inspection of the pumps and controls at the completion of the Clinton, Iowa Pumping Station.

enclosed the creeks and helped to solve the problem; by 1950, 19 sewers were discharging to the Mississippi.

But during the 1920's and 1930's, the U.S. Corp. of Engineers created 27 locks and dams on the upper Mississippi, raising the water level by several feet and submerging the sewers. In 1953, the city built pumping stations to protect three of the sewer outlets, but they were ineffective during high river situations. Then, in 1981, the Corp. of Engineers completed an 8.2 mile long levee which permanently removed the threat of river flooding from the city itself. But the problem of flooding continued west of the downtown area.

In 1957, Clinton enlisted the services of the Chicago engineering firm of Consoer, Townsend & Associates, Inc. to investigate and help solve this flooding. The engineers developed a plan for several detention basins, four miles of

30-108" diameter relief sewers and the creation of the Third Avenue Pumping Station. With four, 40,000 gpm main pumps, three 7,000 gpm low flow pumps and two 500 gpm grit pumps, the system is capable of pumping 160,000 gpm — a tremendous amount of water even by today's ever-increasing standards. After a competitive bidding and equipment selection process, the city of Clinton selected Metropolitan Industries and our subsidiaries, Metropolitan Pump Company and Metropolitan Equipment Company, to furnish the pumps and pump control system for the Third Avenue Pumping Station.

"We were already familiar with Metropolitan having achieved very good results with the organization on many previous projects," relates William Cadigan, recently-retired Senior Consultant of Consoer, Townsend & Associates, Inc. with responsibility on the Iowa station. "Its technical submittals were well prepared and easily understood, as well as its in-house shop diagrams and maintenance manuals. Metropolitan provided a single-source, comprehensive package of pumps and controls and follow-up maintenance of the equipment — an integrated system that no one else offers."

During the equipment selection process, Eugene Niebuhr and Robert Tonn, then Director of Public Works and Superintendent of the Clinton, Iowa Water Pollution Control Plant respectively, both now retired, visited our headquarters in Romeoville to inspect, first-hand, engineering, assembly and maintenance operations. This included discussions with officers of our company, engineers and supervisory maintenance staff, as well as inspection of the shops and maintenance fleet. The final choice came down to Metropolitan and a large Swedish company, which was likewise inspected and evaluated, according to Bill Cadigan. The city selected us because we clearly demonstrated we had the staff and know-how to fully meet its expectations as a single source provider of the pumps and controls and we were completely capable of handling all follow-up maintenance as required.

Bob Wedell, Metropolitan Municipal Sales Manager, was in control of the Pumping Station assignment. Over 30 Metropolitan employees were involved in the design, construction, startup and



The Pumping Station motor control center with SCADA (Supervisory Control & Data Acquisition System).

servicing of the system, which included, besides the pumps already mentioned, two 2,000 amp Motor Control Centers with an Interlock Switch, two 400 hp Variable Speed Drives, and one Supervisory Control System complete with Touch Screen Operator Control and SCADA. Metropolitan Industries assured total compatibility of all equipment and instrumentation and followed its installation with required control adjustments. The pumping station construction took 15 months to complete during which time Metropolitan worked with the engineers and contractor, Story Construction Co. of Ames, Iowa, to integrate the pumps and controls into the building operation by assuring timely installation, supervision and start-up of our equipment.

If you are considering a future pumping system and would benefit from a single source package, please contact your Metropolitan representative.



Robert Tonn, recently retired Superintendent of the Clinton, Iowa Water Pollution Control Plant (right) stands before the Third Avenue Pumping Station with new Superintendent Gary Schellhorn.

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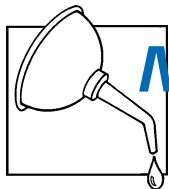
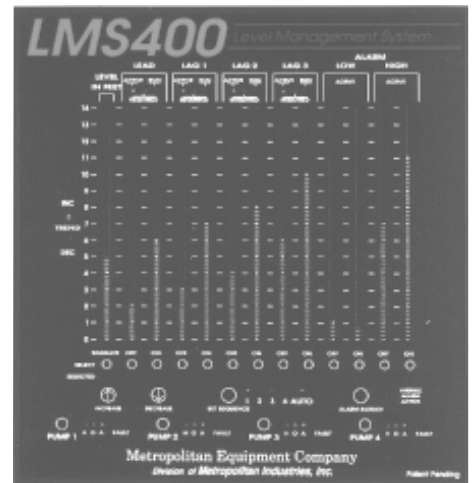
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LMS400 Level Management System

The LMS400 is capable of controlling up to four pumps at the same time in a liquid level system for both "pump up" and "pump down" applications, with submersible or pipe mounted transducers. It can alternate the lead pump each cycle in duplex, triplex or quadraplex alternation. The LMS400 controls increasing or decreasing levels with set point levels

of almost any level variation displayed in a bar graph format through high intensity LED indicators. The controller has 12 bar-graph-displayed set points which can be adjusted at the push of a button. A "simulate" control allows the user to simulate most of the LMS400 functions for routine testing. Both "low level" and "high level" alarms are automatically activated, and a common alarm is available for connecting to an audible device or any alarm system. The LMS400 features a microprocessor-based design with calibration at the touch of a button.



Maintenance Made Easy Drypit Submersibles

A Metropolitan drypit submersible installation eliminates the costly, technically-complicated and often maintenance nightmare required to separate the motor and controls from your pump in a lift station environment to insure that the motor will not "burn up" in case of flooding.

Our Hydromatic Pumps use oil-filled motors, NEMA Class F insulation on the windings, overload heat sensors and seal leakage detection. Our submersibles are capable of running dry without damage in a dry pit pumping station. And because these pumps are submersible, station flooding will not damage the motor and bearings. Pump drive shafts and mechanical couplings are eliminated because the motors are close coupled.

The Hydromatic top pullout design allows fast and easy inspection of the rotating assembly (motor, shaft, bearings, seals and impeller). There is no need to disturb the volute, suction and discharge piping.

Do you have a maintenance problem or question of your own? Write, fax or call us for inclusion in a future issue of *The Metropolitan Update*.

