GRUNAU GRAM

EXCELLENCE SINCE 1920

Mechanical and Fire Protection Contractors and Engineers — Winter/Spring 2002

The President's Corner

by Paul Grunau

On February 8th our family was spellbound as we watched the spectacular Opening Ceremonies of the Winter Olympics in Salt Lake City. As people who love the Olympics, my wife Jeanie and I experienced the entrance that night of the World Trade Center flag, the music, and the spectacle of the Parade of Nations. Since that day we have also enjoyed watching the excitement and passion of the competitors as they fulfilled their dreams of Olympic competition.

The reason I am writing about the Olympics is that, while winning a gold medal gets tremendous attention, the Olympics are really about participation and passion.

There are countless athletes who go to the Olympics with no chance of winning a medal, yet in participating at all they are victorious. They are the ones who truly make the Olympics a great event because they deeply appreciate the opportunity to compete; that is their victory.

I see many parallels to the Olympic experience in our endeavors each day. While we always strive to win, we can ensure the highest chances for victory if we find joy in the competition. As we do our work each day we do it with a passion for excellence, with the principles of honesty, and integrity as our foundation. The experience of working together to deliver our customers the value they deserve is very fulfilling for our team. It is the enjoyment of that experience that keeps us all focused on our objective of superior quality and service.

We certainly make mistakes along the way, and we don't always emerge victorious, but as long as we stay focused on maintaining our levels of effort and commitment we enjoy the satisfaction of competing, which is the real thrill.

Our hats off to all the competitors in the Winter Olympics. In simply participating they have all won a gold medal.

Runzheimer International

Runzheimer International, Rochester, Wisconsin

Founded in 1933, Runzheimer International is a Rochester, Wisconsin-based management consulting firm specializing in travel and living costs, serving over 2,000 businesses and government agencies worldwide. Areas of special knowledge include employee relocation, group moves, national compensation programs, business driving and vehicle fleet and travel management.

In October 2001, Runzheimer employees moved into their new state-of-the-art three story, 60,000 sq. ft. headquarters building. This building is the first in a planned development of 78-acres located in Waterford, Wisconsin.

Grunau Company was the design/build HVAC contractor on this project. Our system includes two, 90 ton gas/electric rooftop units that serve the building. Seventy-five variable air volume (VAV) boxes with electric heat provide zoned control. Electric baseboard convectors located around the building's perimeter provide the heat for the space. These heaters are interlocked with the VAV boxes to keep from simultaneously heating and cooling the space. Three exhaust systems ventilate the restrooms, kitchenette area, and elevator machine room.

A flexible, user friendly direct digital control (DDC) system controls the equipment. This system is essentially a computer network that communicates with all of the equipment. It is constantly monitoring the building's environmental systems, allowing for trending and alarming of temperature control points. In addition, its connection to the outside world, via a phone line, allows for automatic pages if desired and technicians to be able to remotely "call-up" the building to analyze the system.

As Runzheimer's operations rely heavily on their computer systems, an independent computer room system consisting of two 5 ton units powered through the building's emergency power system maintain temperature and humidity 24 hours/day, 7 days/week.

Thanks to all involved in this successful project:

Runzheimer International, Owner
Rex Runzheimer, President
David Kamm, Vice President-Finance

Berghammer Corporation, General Contractor
Leif Nesheim, President
R.J. Adel, Project Manager
Scott Barrowclift, Project Superintendent

Eppstein-Uhen Architects
Pat Prendergast, AIA, Principal
Christopher Johns, Project Assistant

Grunau Company
Jeff Kuhnke, P.E., Project Manager
Rachel Donnelly, HVAC Engineer
Bob Stich, Sheet Metal Foreman
Marje Mosey, Controls/Electrician Foreman
Ingo Luther, Controls/Electrician Foreman
Bob Niedzwiecki, Test & Balance Foreman

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WAUKESHA ENGINE DRESSER, INC.

Since 1906, Waukesha Engine has been a global manufacturer of gaseous fueled internal combustion engines for gas and air compression, prime and standby power generation, pump, chiller, blower, and other industrial applications. Waukesha's ISO 9001 Certification is an ongoing commitment to provide consistent levels of quality and service to the world.

Grunau Company has assisted Waukesha Engine over the years by performing various projects involving all facets of our mechanical expertise in their Waukesha, Wisconsin facility, from small service calls to large additions and remodels. Most recently, Grunau was the prime contractor on a substantial upgrade to Waukesha's existing cooling systems. Our team added two cooling towers and reconfigured existing piping and heat exchangers. All steel supports for the cooling towers were fabricated and installed by Grunau Metals. In fact, this remodel is an addition to a system Grunau originally installed over nine years ago.

The process cooling system is used by Waukesha Engine in the manufacture of their engines. It consists of a large, underfloor reservoir with internal baffles that circulates water. Pumps send the water through a series of heat exchangers in order to cool the oil inside the engines, and to manipulate loads on the engines during testing. The cooling water is then returned to the reservoir and is utilized throughout the plant for comfort heating. When plant heating is not required, the excess heat is then transferred out through the cooling towers.

The recent addition added two new cooling towers, which replaced two existing towers, and along with the reconfigured piping, increased Waukesha Engine's heat rejection capacity. The key to this project was to install the new system and switch Waukesha over from old to new while keeping them in production.

Working with Waukesha Engine, Affiliated Engineers, Staff Electric, and Honeywell Controls, a plan was devised to minimize any disruptions to production. Piping systems were measured, prefabricated and put into place. A series of weekend shutdowns were utilized to tie in portions of the new system with the old so that Grunau could systematically switch from old to new as portions were completed. As a result, using five short off-hours shutdowns, the new system was completely in place and operational by September 2001, with minimal disruption to production.

Cooling Towers – Structural Steel & Piping

Our thanks to the construction team for their role in the completion of this project.

Waukesha Engine Dresser, Inc., Owner
Stan Blakney, Director - Facilities and Compliance

Staff Electric, Electrical Contractor
Bob Lesch, Project Manager
Tom Deckow, Foreman

ACS, Engineering Construction Manager
Eugene Iguzquiza, Project Engineer
Jeff Zander, Project Manager

Honeywell, Inc., Controls Contractor
George Minkel, Controls Systems Specialist

Grunau extends their special congratulations to Stan Blakney, of Waukesha Engine, on his recent promotion to General Manager of CFR (Combined Fuel Research).

Grunau Company
Larry Loomis, P.E., Project Manager
Mark Gall, Grunau Metals Division Manager
Mike Reynders, Piping Superintendent
Gerry Gelhaar, Piping Foreman
Stuart Thurow, Piping Foreman
Tim Pladies, Piping Foreman
Tom Owen, Electrical Project Manager
Dale Poweleit, Pneumatic Piping Foreman

Reclaim Heat Exchanger & Piping

Heat Exchangers & Piping

Modification to Pumps & Piping

DEPAUW UNIVERSITY

When completed in 2003, the Julian Science and Mathematics Center renovation/addition on the campus of DePauw University, Greencastle, Indiana, will be a state-of-the-art science facility. The facility is named after Professor Julian, an African-American Scientist who graduated from DePauw University.

The existing 133,000 sq. ft. building is currently being renovated with a new four-story 100,450 sq. ft. addition.

Grunau Company's Indianapolis branch office has been contracted to install a life safety sprinkler system throughout the entire building. This will consist of 8 wet pipe sprinkler systems, a fire pump with auto-transfer switch/controller, standpipes, and approximately 850 sprinkler heads.

The estimated total construction budget for the renovation/addition project is $32 million. The project features a new three-story atrium with open balconies on each floor. Located above will be areas for student study and gatherings as well as University social events and displays.

Special thanks on this project go to the following: DePauw University, Jim Daugherty and Jim Ruark; A.A. Huber & Sons, Mechanical Contractor, Shane and Peter Huber, Project Managers; Sheil Sexton, General Contractor, Tony Eisenhut, Senior Project Superintendent; CSO Architects and Interiors, Dan Moriarity and Jim Milan, Project Architects.

Grunau Company personnel involved in the project are: Bob Harlow, Branch Manager/Project Manager, and Mitch Miles, Designer.

MILWAUKEE ART MUSEUM

In October 2001, the Milwaukee lakefront was witness to the completion of a world-renowned addition to the Milwaukee Art Museum with the stunning exterior display of the Burke Brise Soleil designed by Spanish architect Santiago Calatrava. The ribbed style cover over the glassed in central area opens to a winged shaped shade to the museum.

PLUMBING

With the unique architectural angles and curves of this structure, the plumbing system installation was definitely unique. It presented many challenges to the plumbing team as work had to be coordinated with the construction team to create new methods of installing and concealing the piping systems. The system consists of new sanitary and storm drainage, and a new domestic water system which serves the two main public rest rooms, a major kitchen on the lower mezzanine, and a catering kitchen on the lower level.

As the building was constructed next to Lake Michigan, no pilings were used; instead a 3' to 4' floating concrete mat slab was utilized. All building drains are run above the mat slab, and all sanitary building drains drain to the sanitary ejector pumps and are pumped to gravity sewers. This was done so no piping would be visible in public areas and drives.

Photo: Jim Brozek © Milwaukee Art Museum

To reduce the build-up of minerals on electric heating elements, two 120 gallon electric water heaters for domestic hot and cold water supply were connected to a scale safe bypass feeder system.

Grunau personnel worked with a team of professionals who put the pieces of this intricate project together and created a Milwaukee Lakefront attraction for residents and visitors to enjoy.

Milwaukee Art Museum
Christopher Goldsmith, Executive Director
Larry Stadley, Facilities Engineer
Chuck Loomis, Facilities Engineer

Kahler Slater Architects
David Kahler, FAIA, Principal-in-Charge
Lou Stippich, AIA, Principal
Roger Retzlaff, AIA, Associate
Erv Schloemer, AIA, Associate

C. G. Schmidt, Inc., Construction Manager
Jerry Kaminski, Project Executive
Dave Albrecht, Project Manager
Matt Bruggink, Project Engineer
Scott Tesch, Project Engineer
Dan Clausen, Field Superintendent

Ring & DuChateau, Engineers
Don Beres, Project Engineer

Grunau Company
Ron Kwiatkowski, Vice President
Howie Laumer, Project Engineer
Bob Campo, Plumbing Foreman
Dennis Laney, Excavation Superintendent
Tim Sadowske, Excavation Foreman
Steve Johnson, Excavation Foreman

GARDEN FOUNTAIN

One of the other new amenities to the grounds is the magnificent garden fountain that adorns the west lawn of the site. The Milwaukee Art Museum fountain project has an 800 foot water feature that is made up of two circular end pools and 700 feet of straight line fountain spray that is supplied with water from six underground pump vaults. Grunau Company was selected to install the water feature equipment on this project.

Photo: Jim Brozek © Milwaukee Art Museum

The end pools are 40 foot diameter granite pools that have eight 2'' sprays centered on an octagonal stainless steel distribution box located below the water line along with a 20' long reflecting pool. The water for the end pools is circulated through a 20 HP pump providing 900 gallons per minute flow that pushes a spray as high as 25' in the air.

The water is returned to the pump via an outer perimeter trough passing through a coarse debris screen before it enters the vault. All water returned to the vault is filtered through a coarse exterior screen, a large basket strainer on the pump suction, and an inline strainer on the discharge of the pumps.

The straight-line fountain spray is made up of five individual troughs, each 100' in length, and each containing 400 custom made fountain jets 2-1/2'' apart that can provide a 7' high spray. Each trough has ten 4'' stainless steel headers with individual balancing valves supplied by a 12'' PVC concrete encased main header from the vaults. The water for each straight-line fountain is circulated by a 25 HP pump moving 1800 gpm to each trough. All water circulated through the systems is run through a sand filter and an ultraviolet sterilizer to maintain a clean and clear water spray.

Northward Water-Well View

The end pools have submerged flood lighting that illuminates the spray against the evening darkness. The straight-line fountain has fiber optic lighting spaced evenly between the jets every 10''.

The Art Museum's location makes it susceptible to changing wind patterns that greatly affect the operation of the fountain sprays. The fountain pumps are controlled by variable frequency drives that are adjusted by wind sensors on the site. All control for the lighting and equipment is under the control of a Johnson Controls Metasys system installed by Grunau Company electricians.

Grunau Metals built the octagonal distribution boxes, trough filter screens, and the stainless steel spray header system.

The fountain was completed and functional for the Art Museum's Grand Opening in October 2001. Successful completion was due to the efforts of many team members:

Office of Dan Kiley, Design Landscape Architect
Dan Kiley, Architect

DEW Architecture, Inc., Water Feature Architect
Dan Euser, Architect

Graef, Anhalt, Schloemer, & Associates
Associate Landscape Architect
Pat Kressin, Architect

C. G. Schmidt, Inc., Construction Manager
Jerry Kaminski, Project Executive
Eric Schmidt, Project Engineer
Mike Borchardt, Project Superintendent

Grunau Company
Steve Ruder, Project Manager
George Bachman, Plumbing Superintendent
Bob Campo, Plumbing Foreman
Ingo Luther, Controls/Electrician Foreman

Typical Pump Vault

Pump Vaults, Water-Wall Structures Under Construction

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