

MISHAWAKA UTILITIES

James Schrader, General Manager

Mishawaka Utilities began in 1903 as the Mishawaka Public Utilities Company and consisted of a Water Works and Electric Light Plant. Wastewater treatment was added to the Utilities in 1952. From humble beginnings, Mishawaka Utilities has grown into a world class municipal utility that provides reliable electric service, clean and safe water, and effective wastewater treatment. The Sewer Maintenance Department is funded by Wastewater Division revenue; however the department is under the guidance of the City's Engineering Department. The Utility's 136 employees are dedicated to keeping the utility infrastructure up to date, with capacity to keep Mishawaka moving forward.

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The Utility Business Office provides support services to the three operating divisions. The Utilities are under the direction of General Manager Jim Schrader. Hometown services provided by Mishawaka Utilities mean that residents and businesses can count on reliable, efficient, and affordable water, electric, and wastewater treatment delivery. Problems or interruptions in service are remedied quickly, and when contact with the Utilities is required, a friendly human being is ready to take your call. The employees of Mishawaka Utilities are its customers too.

Mission

Mishawaka Utilities is committed to providing the community with the best products and services in electric, water and wastewater treatment.

Mishawaka Utilities strives to:

- Provide reliable service at competitive rates,
- Maintain high professional and ethical standards in a courteous atmosphere,
- Promote continuing education for a safety-conscious and well-trained staff,
- Cooperate with and promote our community, and
- Provide products and services that far exceed the expectations of our owners, our customers.

Mishawaka Utilities Business Office

Virginia Fras, Manager

The Mishawaka Utilities Business Office strives to provide good Customer Service and so we believe that "Customer Service is a function of how well an organization meets the needs of its customers." The Business Office wants to meet these needs but also exceed them through the services we provide. We want to continue to make our services

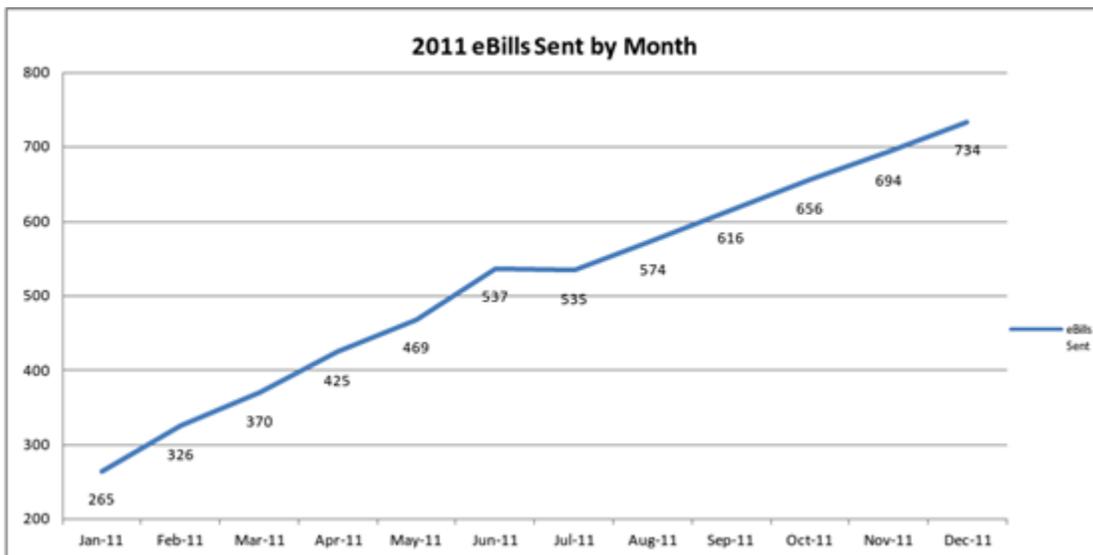
convenient, efficient and friendly. It's important to us that we are able to interact on a personal level with our customers rather through an impersonal automated phone service.

Our Business Office is staffed with 24 employees who continue to work hard to improve office efficiencies. We accept Visa, MasterCard, Discover and e-check payments on our website, as well as payment by Interactive Voice Response through our toll-free phone number. We will continue these services and make improvements to provide on-line payment history that is automatically organized, filed and available anytime through a simple user interface. This enables the customer to search prior billing statements and research payment without the need to call the billing office. These new enhancements will also remember customer data, eliminating the need to re-enter payment information for second and future payments.



... continue to make our services convenient, efficient and friendly

Mishawaka Utilities e-Billing replaces paper bills and statements with enhanced, interactive electronic documents that are delivered securely and directly to customer inboxes. This enables Mishawaka Utilities to reduce their billing costs, while maintaining customer service and efficiency. The e-Billing system is an immediate cost saving solution with benefits that reach far beyond reduced billing costs.



In addition to its ability to help control billing expenses, e-Billing has proven to be extremely efficient in allowing for faster payments. By signing up today, you can enjoy the following benefits: Receive an email when your bills are ready to view; Download

and print your billing information at your convenience; Avoid mail delays; Avoid statements lost in the mail; Avoid missing or delayed statements due to changes in address; Help the environment by saving paper and reducing waste.

Looking Forward

We will continue to anticipate and make changes to cut costs and improve efficiencies as an ongoing goal. Lastly, another significant goal we accomplished in order to better service our customers was to combine billing statements. In the past we've had a particular route in which we had to read the electric and water meters at different times during the month. This resulted in sending two separate bills. We made some changes to our system, which allows us to read both meters at the same time, and therefore send one monthly bill for all services. We had approximately 2000 accounts that were being billed separately, averaging out to be a savings of \$6000.00 from June through the end of the year. Although it may not seem like a large number, in addition to the cost savings it enhances customer convenience and service.



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With a new year brings new changes and challenges to each department. We have already begun planning for new software upgrades in order to offer better services and to improve upon current services. We value the citizens of Mishawaka and look forward to servicing you and your needs in 2012.

Water Division

Bruno Trimboli, Manager

In 2011, the twenty-nine MU Water Division personnel strove to supply our 46,000 customers with potable water via 17,109 service connections. As always, our objective was to deliver exemplary customer service along with drinking water that would meet or exceed Federal and State drinking water standards. Simultaneously, our goal was to work to keep production costs to a minimum through improved efficiency achieved by

***... over 285 miles of water
distribution main***

perfecting the manner in which we conduct our business. These efforts were applied to the operation and maintenance of our three water treatment plants with

their combined capacity of some thirty million gallons of water per day, six water booster stations, four elevated water storage tanks totaling some 6.75 million gallons of storage, and over 285 miles of water distribution main in our water system.

In order to achieve our stated mission, the Water Division is organized into four distinct areas of activity that are all interdependent. These are: the Water Quality, Operations, Wellhead Protection group; the Water Treatment and Pumping Facility Maintenance group; the Distribution System Maintenance and Construction group; and the Water Metering and Backflow Inspection group.

The Water Quality/Operations group is responsible for the operation of our water treatment plants and well fields, and for the comprehensive testing of the drinking water that these facilities produce in accordance with Federal and State regulations. Water quality throughout our distribution system from the wells to the customer's service line was monitored and maintained through the over 19,500 discrete tests performed either in our water quality laboratories or by independent certified labs contracted by us. Water quality testing and treatment plant operations are conducted and monitored on a daily basis. The Annual Drinking Water Quality Report that is provided to our customers by July 1st of each year is published by the Water Quality/Operations group. This report summarizes the results of our comprehensive testing for our citizens in accordance with directions promulgated by the USEPA.

Protection of our aquifer, the underground source of our drinking water, falls on the shoulders of the Well Head Protection Coordinator. In 2011, the Well Head Protection effort worked to identify and confirm thousands of potential sources of ground water contamination and to integrate this information with our GIS resources. This included locating abandoned wells, identifying commercial and industrial activities that have the potential to contaminate the ground water, and participation on the St. Joseph County Water Resource Area Board.



The Water Metering /Backflow/Cross Connection group is responsible for testing the many backflow devices located throughout our distribution system. The purpose of these devices is to prevent the back-siphoning of potentially harmful contaminants from commercial, industrial or irrigation activities into the potable water distribution system. Backflow devices are required in all commercial and industrial buildings and on all irrigation systems that receive water service from Mishawaka Utilities. The Water Division Meter Department coordinates closely with the Customer Service arm of the MU Business Office to schedule the installation, removal, and testing of our water meters. Most of this work is done on a pre-scheduled basis, but often these personnel are required to respond to unscheduled requests via radio dispatch. Water meters not only are necessary to allow us to bill our customers for water and wastewater services, but they also help us to determine the type and trends of service required. Customer emergencies account for much of the Meter Department's efforts.

Water Supply Summary

MONTH	WELL FIELDS					Total Raw Pumped (MGD)	Total Finished (MGD)
	VIRGIL		DIVISION		GUMWOOD		
	Finished Water	Raw Water	Finished Flow	Raw Water			
January	83.80	81.71	103.65	123.66	3.25	208.62	190.70
February	76.44	72.60	95.06	113.59	3.33	189.52	174.83
March	78.61	71.40	106.06	126.99	4.91	203.30	189.58
April	77.99	72.15	101.42	121.91	3.54	197.60	182.95
May	96.63	93.09	109.02	130.23	4.50	227.82	210.16
June	162.12	156.97	112.40	135.97	7.22	299.94	281.73
July	209.92	210.40	145.20	175.45	10.71	396.56	365.82
August	164.20	166.41	150.39	180.48	6.18	353.07	320.76
September	103.45	105.15	147.27	177.71	6.20	289.06	256.92
October	58.94	56.93	146.25	176.40	6.16	239.49	211.35
November	69.48	66.26	100.20	123.41	5.16	194.83	174.84
December	73.58	69.72	106.18	126.30	0.82	196.84	180.57
Total	1255.14	1222.79	1423.10	1712.10	61.98	2996.66	2740.22
Average	104.59	101.90	118.59	142.68	5.17	249.72	228.35
Maximum	209.92	210.40	150.39	180.48	10.71	396.56	365.82
Minimum	58.94	56.93	95.06	113.59	0.82	189.52	174.83

The Water Treatment and Pumping Facility Maintenance group keeps our water treatment plants and associated well fields, booster stations, pressure control vaults and elevated water storage tanks in proper working order. This is the key to efficient operation. The update and enhancement of the water system's SCADA control system continues, and is expected to be completed in 2012. We continue to pursue improved energy management in the water system with the goal of controlling our energy costs.

The Water Distribution System Maintenance & Construction group continued from 2010 with a hectic year in 2011. Quality of work, and productivity were the two main goals. Water main breaks, leaking service lines, broken distribution line valves, and assistance to contractors working for the City were examples of services provided to our customers.

The MU Water Division relocated water main and associated infrastructure for the Indiana Dept. of Transportation in support of the State Road 331/Capital Avenue project corridor in various locations. Significantly, our crews installed over 5,400 lineal feet of new sixteen-inch water main along the new Downey Avenue extension in order to maintain water service to the Reverewood subdivision and areas to the east along 12th Street. Fire hydrants are also a key part of the distribution system. There are over 2,700 fire hydrants in our system. The most important function of the fire hydrant is to fight fires, but they are also used to flush the distribution system as required to further enhance water quality. During our yearly flushing, each hydrant is checked for proper operation and repaired as required. Fire flow data is acquired and provided to engineering and insurance entities as requested. A dependable and ample water source for fire fighting purposes (ISO rating) has a direct bearing on a community's ability to attract or retain commercial and industrial businesses.



... pumped and treated an average of 7.55 million gallons per day of drinking water

There were many challenges to address in 2011. Although the national economy was suffering a severe down-turn, our customers expected and received world class service from their Water Division. The Water Division pumped and treated an average of 7.55 million gallons per day of drinking water that met or exceeded state and federal drinking water standards. Simultaneously, we maintained and repaired as required the extensive treatment and distribution infrastructure while aggressively supporting other City of Mishawaka and State of Indiana construction projects.



In the year ahead we look forward to the completion of the Water Division's contribution of effort and expense to facilitate the State of Indiana's Capital Ave./SR331 project. We will be supporting the City Of Mishawaka's efforts on north Main Street and in the Milburn Blvd. areas, and their efforts to improve 12th Street. It goes without saying that the Water Division will strive

to continue to maintain or exceed potable water standards as administered by IDEM and the USEPA. We will continue to explore and implement more efficient methods for operating the water treatment, pumping, storage and distribution systems. We expect to continue to deliver world class service to our customers despite the economic challenges that face all of us. We anticipate that 2012 to be a challenge, but the Water Division will strive to meet it!

ELECTRIC DIVISION

Tim Erickson, Manager

Background

Mishawaka Utilities – Electric Division (MUE) is the second largest municipally owned electric utility in Indiana, providing service to 27,012 meters. MUE does not generate power. Power is purchased on a wholesale basis from American Electric Power (AEP) and then distributed via MUE’s sub-transmission system.

The heart of the system is the 11 substations located at strategic points throughout the city. The staff constructs and maintains the distribution system consisting of nearly 127 miles of overhead lines and 176 miles of underground distribution lines as well as seven miles of transmission lines (primarily 34.5 kV, with a small 69 kV section). This system serves a population of 48,252 (as of 2010 Census). MUE’s consumers enjoy electric rates that are slightly below average for similar sized cities in Indiana, which is one of the nation's lowest-cost energy states.



While owned by the City of Mishawaka, the Division is not supported by tax dollars. As a division of Mishawaka Utilities, the operation is totally financed by the customers served. Operationally, the Division continues to aggressively rethink how work is performed, how to allocate limited resources, and how to maintain the exceptional reliability of the distribution system.

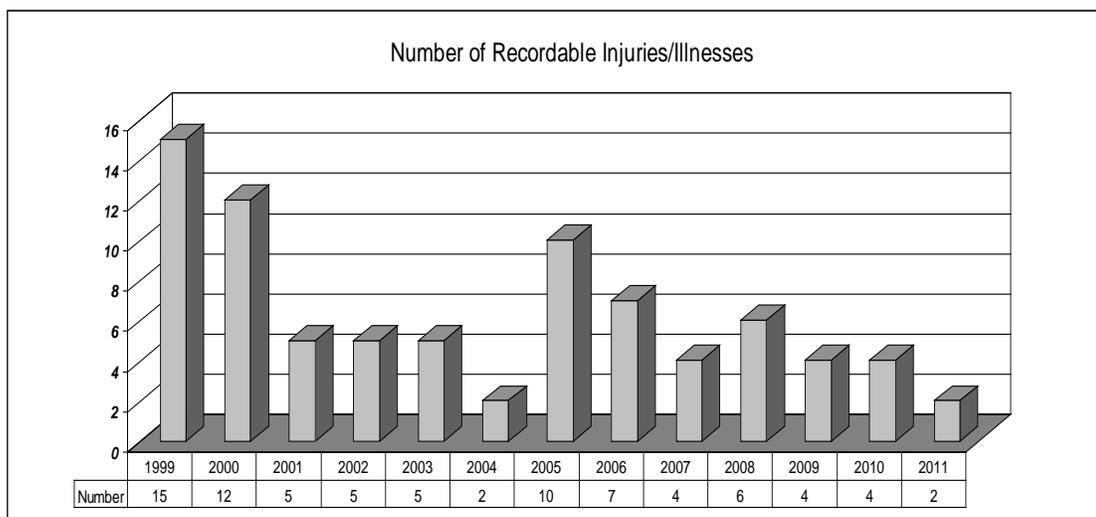
The Division has a staff of 47 employees, divided into four departments: Engineering, Construction, Metering and Operations. The following table depicts the key process measures for the Division:

Electric Division Annual Statistics

Process Measure	2010	2011	Percent Change
Energy Usage, Highest Month (month and kW peak demand)	July 138,083	July 145,108	5.1
Total Energy Purchased (kWh)	597,728,068	621,122,029	3.9
Total Number of Customers Billed (electric and water)	44,135	44,121	-.03
Engineering Projects Completed	112	104	- 7
Number of Transformers Set	70	24	- 65
Number of Meter Department Work Orders Completed (electric only)	22,623	23,345	3.2

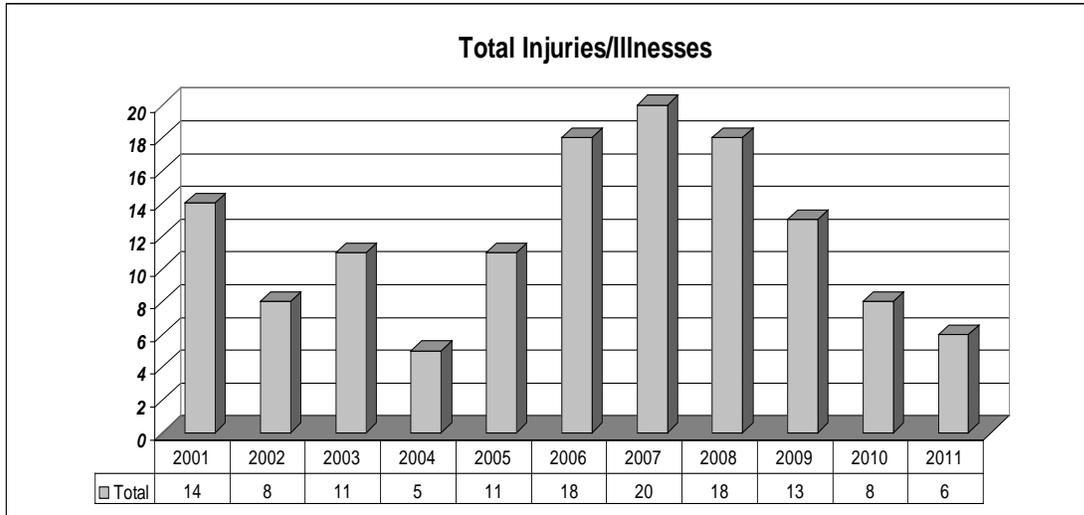
Safety

The Division completed an annual inspection of 3,100 components throughout the City to ensure the safety of the general public. Inspections verify proper locking and tagging of all equipment. Due to the potential hazards of electrical distribution, ensuring the safety of our citizens and Electric Division employees is our highest priority. To further increase the security of our substations, we have changed out the access gate locks and new keys have been issued to select qualified personnel.



All construction personnel participated in bucket and pole top rescue at the Logan Street Training Facility. Training was administered by the Indiana Municipal Electric Association (IMEA). This training occurs yearly to ensure that construction crews remain current in rescue response. In addition, all metering and construction personnel attend monthly safety meetings administered by the IMEA.

The number of recordable injuries/illnesses decreased by 50 percent from the previous year (from four to two). In addition, the total number of injuries/illnesses decreased by 25 percent (from eight to six).



Working safely is the most important aspect of the Division’s mission. A key element of maintaining a safe workplace is using equipment and tools that are in good working order and up to industry and government safety standards. Each year, tests are required on the Division’s bucket and line trucks for both structural and dielectric safety compliance. Every five years, units are x-ray tested to check for structural cracks and stresses that are not detectable with the human eye. Equipment must be in good mechanical and physical condition. Dielectric safety testing insures that proper insulation levels are met for equipment that is operated around energized electric lines.

Division linemen that work with high voltage electricity are required to wear personal protection equipment, or PPE. Typical PPE consists of high-voltage rubber gloves and sleeves, flame-retardant clothing, hard hats, safety glasses and fall arrest harnesses and lanyards. Rubber gloves and sleeves are tested and certified twice a year per industry standards. Fall arrest equipment is inspected annually. Prevention is always the first step towards working safely. Any employee whose job would place them in a situation where an electrical arc flash could occur is issued flame retardant (or FR) outerwear.

Reliability and Performance Enhancements

We are in the process of installing a backup generator at our 12th Street facility to power all expected loads (e.g., SCADA, dispatch radio and phone system, house loads) in the event we experience a power outage as we did in the summer of this past year. The generator foundation, gas lines, and automatic transfer switch have already been installed.

The generator is scheduled to arrive in mid February. Plans are to have the system operational by the end of March.

Also, in response to concerns expressed by one of our key customers (SJRMC) we are performing an in-depth review of the resonant harmonic impact of the Clover substation capacitor bank and its transformer. This review will be completed the first quarter of 2012.

Proactive engineering reviews and assessments identified a number of significant areas for improvement in our transformer protection. For example:

- One engineering review resulted in the installation of permissive interlocks at Virgil, Borley, and Bercado to ensure the transformer isolation switches won't be damaged in the event of an emergency requiring station isolation.
- Another engineering review revealed that the breaker failure times (on our 34.5 kV isolation breakers) were significantly higher than required, possibly leading to excessive transformer damage in the event the station were to receive an isolation signal. These breaker failure times were reduced from 2 seconds to 0.3 seconds.
- A third review resulted in a design change being implemented at the Virgil substation to more effectively monitor the status of the protection trip coils. This was implemented in response to a protective system fuse failure at Union substation. This design change will be implemented at all stations.

System Energy Consumption

In July of 2011 we hit our annual peak load of 149.1 MVA (5.1 percent greater than the 2010 peak, but three percent less than the previous high of 153.6 MVA, set in August 2006). All distribution equipment operated within design constraints. SCADA provided continuous up-to-date information of transformer loading and system supply voltages. Also, our energy consumption (total energy purchased) for the year was 621,122,029 kW, up 3.9 percent from the previous year.

Increased Revenue

This past year we signed contracts with two communication companies, Zayo and Windstream, permitting attachment of their communication wires to our poles. Revenue from these attachments should be around \$2,000 per year.

Training

Our apprenticeship program is in its 23rd year. In February of 1988 we started our Joint Apprenticeship Training Program and have graduated 24 apprentices to Journeyman Lineman. Our program is a cooperative effort between Local Union IBEW 1392 and the Mishawaka Utilities Electric Division. Our program is recognized and registered with the Department of Labor Bureau of



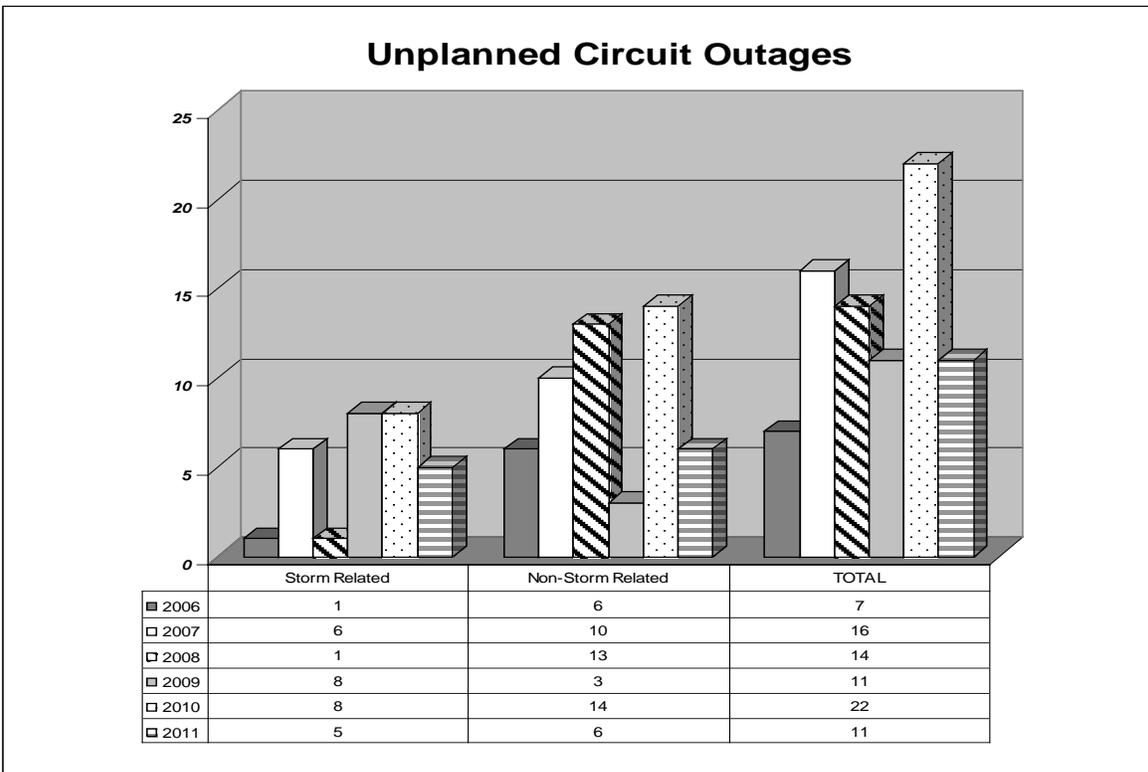
New Apprentices

Apprenticeship and Training. To graduate, an apprentice must have a minimum of 8,000 hours on the job training (four years) and 576 hours of class room study

We currently have four apprentices in the program that, prior to joining MUE, had already completed an intense ten month program at Lake Michigan College specializing in line work and line construction. MUE was fortunate to have three different students from the college go through two separate three week on-the-job work sessions. By doing this on-the-job training we both were able to benefit from the time and effort of working together. Lake Michigan College gained an expanded teaching opportunity from Mishawaka Utilities Electric Division linemen and line foremen’s tutelage during these sessions. Our journeymen linemen and line foremen’s experiences and knowledge helped the college offer the students a safe and approved, method of line work. Mishawaka Utilities Electric Division was able to test the schools training first hand. We believe this was a major factor in the selection process of our new apprentices

Outage Performance

There were 11 unplanned circuit outages in 2011, with a cumulative unplanned outage time of 12.6 hours. Of these 11 outages, five were storm related. Four of the six non-storm related outages were due to tree branches falling on primary lines.



The following chart depicts our unplanned circuit outage trend for the past 6 years (Note: there have been no AEP initiated outages lasting longer than two minutes as a result of the circuit upgrades completed in 2005.)

The system, as a whole, continues to provide exceptionally reliable power. This is due to multiple factors including ongoing reviews and analysis of system reliability and operational issues. Appropriate actions are taken to address areas requiring improvement. Performance has also been positively affected by an effective preventive maintenance (PM) program, effective implementation of the fuse coordination program, and effective preparation, review, and approval of technical procedures.

... continues to provide exceptionally reliable power

Preventive Maintenance

The substation preventive maintenance PM program helps prevent and mitigate failures and prolongs equipment life. This year the transformer oil testing schedule was modified in such a manner that oil sampling is conducted twice a year allowing more efficiency in sample gathering. This also allows for better analysis of the various test results. Testing also continued on the motor mechanism and switches of motor operated air break switches (MOABs) along with about 80 electromechanical relays. In addition, three substation transformers were subjected to a complete test of their protective device systems.

Routine inspections continue to find problems before they become more serious. An example is the routine control testing of SCADA components. Numerous control and status board failures have been identified during these routine inspections allowing repair in a controlled manner.

In the fall of 2011 we replaced the vacuum tap changer at the 12th Street substation. We discovered the failure of this device during a routine PM activity.

Our annual infrared (IR) survey was completed in May. IR surveys provide the opportunity to preemptively address equipment temperature anomalies thereby preventing failure.

Engineering Projects

The new 331 extension project final phase was one of our most significant projects this past year with the abandoning and relocating of multiple three phase pole lines. We also completed the MUE Fiber project, installing many new underground sections and installing new splice enclosures for future growth. Two other projects requiring significant effort were the Cleveland Road Annexation Project and the Douglas Road Annexation Project.

The most demanding projects (those requiring in excess of 160 hours per crew) included the following:

- Electric distribution improvements (line maintenance projects):
 - Logan Substation Circuits 52-2 & 52-5 Rebuild
 - Logan Substation Circuits 52-3 & 52-6 Rebuild
- Major City Jobs
 - Mishawaka Ave. Bridge Project

- Church Street Connector Project
- Main Street Improvements Phase 5
- Summer Fest Rebuild @ Crawford Park
- Hillis Hans Park Renovations
- Well Pet Three Phase Rebuild
- Dragoon Trail & Logan Street Relocation
- University 52-6 Toll Road Bore / Rebuild
- Edison Road & Grape Road Expansion
- River Walk Security Project

GIS (Geographic Information System)

The Electric Division utilizes a GIS base map to assist power outage response teams. GIS information provides both a concise location of the affected residence or business and the necessary information to determine the extent of the outage. GIS continued to play a vital role in the periodic inspection of high voltage equipment. The inspection effort required the creation of equipment location maps throughout MUE territory. GIS was also used for maintaining construction and street light work flow, circuit map updates, utility center updates, the transformer database, and GPS field work.

Operations

The Operations Department provides support to the Engineering, Construction, and Metering Departments. The Operations Department:

- Purchases, coordinates and maintains all goods, services and rolling stock for the Electric Division.
- Generates bills, in conjunction with the Business Office, for contracted services set up by Engineering and damage claims to our facilities due to traffic accidents and contractor dig-ins.
- Assists the Accounting Department in keeping accurate material and accounts payable records, and by generating all purchase orders and job costing reports.

Other key functions of the Operations Department include:

- Dispatching crews and providing assistance to both customers and other divisions over the telephone and two-way radio.
- Maintaining all records for use by Accounting, Engineering, and



2011 Journeymen Graduates

Construction pertaining to transformers, meters and inventory material.

- Maintaining the storeroom and issuing materials to construction crews.
- Issuing polyphase meter sockets to electrical contractors.
- Monitoring the SCADA system substation network.

A major facilities project completed in 2011 was repainting the exterior of our 12th Street Service Building. This was the first time the outside of the building was painted since the facility was originally constructed in 1987.

H & G Services continues to control unwanted vegetation growth in our substations. By contracting the vegetation control to an outside firm we actually save money and MUE man hours versus purchasing the herbicide and applying it ourselves. The condition of our substations is a direct reflection of our overall commitment to be good neighbors to the citizens and businesses that make Mishawaka their home.

We continue to partner with HD Supply Utilities of Mattoon, Illinois by utilizing their Vendor Managed Inventory system, or VMI. By relying on HD Supply to keep inventory in stock at their warehouse, we can reduce the material that we need to keep on our shelves. This reduces the amount of capital we have invested in store room inventory that isn't out on the city's electrical system helping to generate revenue.

Two new vehicles were added to our vehicle fleet in 2011, a Ford E350 van for our Metering Department and a Ford F350 utility-body truck for our overhead Construction Department. In addition to the new vehicles, we purchased a 2011 Case Model 580N Loader/Backhoe in 2011. This new piece of heavy equipment replaced a John Deere backhoe that had been in service since 1985.

We wrote purchase orders for approximately \$1,178,361, a decrease of 19 percent from the previous year. Also, we continue to use blanket purchase orders, whenever practical, to assist the Accounting Department in streamlining their paperwork process. We also electronically process and forward as many reports as possible to further reduce the amount of actual "paperwork" being transferred between offices.

Metering Department

The number of electric customers decreased slightly from 27,035 to 27,012. The meter readers are covering a much larger area compared with previous years. Our meter technician van completed over 5,188 work orders. Along with newly implemented testing procedures for current and power transformers, the Metering Department completed 23,345 work orders.

The following table depicts performance in the area of work orders:

Work Orders for Electric	2010	2011	Percent Change
Removals	9063	9536	5.2
Installs	8840	9341	5.7
Sets	82	106	29
Re-reads	4003	3680	-8.1
Change Meters	335	460	37
Miscellaneous	300	222	-26
Totals	22,623	23,345	3.2

Our shut-offs and reconnects continue to provide added revenue. The Business Office, along with our customer service truck, runs a shut off list three days per week, along with a special list on Fridays, if needed. We now make it a priority to do follow-up visits to disconnected accounts to check for tampering and theft. To make the most efficient use of available resources we implemented an effort when, if there is no shut-off list, personnel assigned to the shut-off truck assist meter readers in obtaining their readings.

The following table depicts performance in the area of shut offs.

Shut-offs	2010	2011	Percent Change
Past-Due Amount	324,053	335,180	3.4
Total Amount Due	637,763	663,231	4
# Shut-Offs	3357	3260	-2.9
# Bad Checks	25	28	12
# Payment Plans & Extensions	142	136	- 4 %
# Payment Plan Deposits	334	284	-14.8
Shut-Off Totals	3858	3708	-3.9

We are continuing a *change meter program* - changing three phase mechanical thermal demand-type metering to electronic solid-state type metering. In 2011, 136 three-phase

meters were changed. We have also implemented a program to replace single-phase meters that have been in our system over 20 years, changing out 324 of these in 2011, many of which had resulted in lost revenue due to excessive mechanical losses.

Recognition of Outstanding Performance

Gordon Allen, Chief Engineer, continues to strive for excellence in electric system operations, focusing on the way things should be rather than being satisfied with the way things are. His proactive efforts have identified, through comprehensive engineering reviews and assessments, a number of required reliability enhancements.

Don Beck (journeyman lineman) - Don has taken classes through the National Training Institute to begin work toward becoming our first nationally certified NJATC apprenticeship instructor. He has taken over as MUE's classroom instructor. Courses and workbooks have been made available in electronic format allowing work to be done online with the use of laptop computers. Don has also helped to convert our streetlight mapping to a computer map using our utility center software.

Chuck Bailey (journeyman lineman) - From winning the Indiana State apprentice of the year award in 2010, and topping out as a journeyman lineman later that year, Chuck continues to provide the energy and drive for our lineman's rodeo team. He is committed and involved, both as a competitor and teacher. He is just as committed in our own community always leading the after-hours callout percentages.

Kevin Wasmer, Projects Manager, has worked tirelessly to implement our projects from design to completion. He is our connection to the City of Mishawaka, working with our City Engineering Department to make dreams become reality. All major projects go through Kevin and he holds weekly construction meetings to keep up with their progress. He has taken the lead on our fiber-optic project working with contractors and Metronet to insure cable and test specifications are met as we work with fiber optic cable as an economic development tool.

Awards

- 2011 APPA National Rodeo held in Nashville Tenn. Our team consisted of Chuck Bailey, Tim Draskovits, Dave Cochran, and Shane Reynolds. The team placed 50th in our first team journeyman event.
- 2011 International Lineman Rodeo held in Bonner Springs, Kansas October 14th and 15th. Our team of Chuck Bailey, Tim Draskovits, Scott Flynn, and Shane Reynolds finished 135th out of 175 teams and placed 25th Worldwide among municipals. This competition featured teams from the United States, Canada, England, Jamaica, and Russia, just to name a few. The following statement was issued by the International Lineman's



Rodeo Team Installs High Voltage Protection

Rodeo Spokesman at the international banquet in front of over 2000 people:

“Mishawaka Utilities is a small utility, but when it comes to helping their neighbors they always do what they can. When they send crews to help other communities it puts a strain on their own workforce, picking up the loss of manpower and equipment. But Mishawaka’s linemen work for the greater good to put people’s lives back in order. In 2011 Mishawaka worked the February snowstorm, the tornado disaster in Chattanooga, Tennessee and in Baltimore, Maryland following hurricane Irene. Mishawaka also had several storms in their own community and their linemen spent long hours restoring their own customers. When it comes to getting lines back up and people’s power back on, Mishawaka is the best.”

- 2011 Inaugural IMEA Lineman Rodeo held in Anderson Indiana. Our own IMEA formed a committee to initiate a State lineman rodeo. Serving on the committee from Mishawaka were Tim Erickson and Kevin McGann along with representatives from all over Indiana. The competitions were held in Anderson, IN. Our journeyman team members Chuck Bailey, Tim Draskovits, Shane Reynolds, and Scott Flynn finished 3rd overall in the team event. Apprentice Nathan Prenkert finished 1st overall with 1st place in 3 events. Jack Kudlacz 2nd overall and Matt Stull 6th overall. Mishawaka apprentices finished 1st 2nd and 3rd in the written test events. Kevin McGann and Tim Erickson also served as Chief Judges in field events.



Rodeo Team

Challenges Ahead

In 2012 the number one priority in the electric utility must be the safety of the employees and the public. The Mishawaka school electrical safety program must move forward. Once again, all 5th grade students will receive electrical safety training and the Division will hold a three day training session for Mishawaka firefighters. Staff will not grow complacent with training and safety. Electrical equipment inspections will include all

... it is not unusual to see the system restored long before the surrounding communities

renewable energy and demand side management requirements. As new laws become enacted, the Division must decide on the extent of its involvement. The partnership with IMEA offers a platform or voice to be heard at state level meetings.

high voltage switchgear in 2012. With almost six thousand units in the database, all are checked for security and warning signs.

A big challenge looms ahead in

As energy costs continue to rise, Electric Division customers enjoy very low rates. Base electric rates have not been increased since 1990 and reliability and response times have not suffered. Electric Division employee's responses are very timely and it is not unusual to see the system restored long before the surrounding communities. Our linemen and supervisory staff continue to provide outstanding response to all types of after-hour outages.

2012 holds many challenges and Mishawaka is well positioned to move forward in all aspects of system preventative maintenance, from the substations all the way to the house meter, all the while being good stewards of the rate payer's dollar.

Conclusion



Rodeo Team Places First in 2011

The Electric Division provides reliable, affordable electric service to its customers, both residential and commercial, with minimal interruptions and very fast restoration times when interruptions do occur. The engineering and construction staffs work tirelessly to maintain 11 substations and hundreds of miles of distribution lines. With Mishawaka Electric's linemen placing in the top ten in the national and international linemen's competitions the Division truly does provide "World Class Service" to the community. In 2011 Mishawaka totaled 11 unplanned service interruptions. Five of these were storm related and four due to trees falling. The Division's total staff has decreased from 57 to 47 employees in the past four years as jobs have been combined and new efficiencies have been created in response to tough economic times.

The residents of Mishawaka enjoy affordable rates, reliable service and courteous hard working employees that live and work in this community. They take great pride in their performance and knowledge of the system and care about this community. Our linemen worked to help in Chattanooga, Tennessee after the spring tornado damage and in Baltimore, Maryland after Hurricane Irene and provide the same tireless effort here at home. At the annual international lineman's banquet in Kansas the committee singled out Mishawaka and their closing remarks summed it all up: "*When it comes to reliability and restoration of power Mishawaka is the best*".

Wastewater Division

Karl R. Kopec, Manager

Overview

The Mishawaka Wastewater Treatment Plant began its 59th year of operation in 2011. April 18, 2012 will mark the 60th anniversary of the start-up of the facility. In today's world it is hard to imagine that only 60 years ago there was no wastewater treatment in Mishawaka and all the sewage from homes, businesses, and industries flowed directly into the river without treatment.

Things have certainly changed. Mishawaka today enjoys a modern state-of-the-art treatment facility that is recognized as one of the best in the state. A river that was once used as a sewer is now a vibrant and diverse fishery and a valuable asset to our community.

Mishawaka's wastewater treatment plant serves over 17,000 residential, commercial, and industrial accounts. The population served exceeds 50 thousand. In 2011 over 4.2 billion gallons of wastewater were treated and over 7.2 million pounds of pollutants were removed prior to discharge into the St. Joseph River. The twenty six employees of the Wastewater Division have over 450 years of

***The population served
exceeds 50 thousand***



combined wastewater experience. Six members of the staff hold Indiana's highest level of professional operator certification.

The mission of the wastewater division is to protect public health and the water environment of the community and to provide efficient service at a reasonable cost. The wastewater treatment plant operates 24 hours a day, 365 days a year. Mishawaka's

wastewater treatment plant is a Class IV facility with an average design capacity of 20 million gallons per day (MGD). Class IV plants are among the largest and most complex treatment facilities in the state.

The service area that contributes flow to the wastewater plant extends beyond the city limits. Areas served include new developments in Osceola, and parts of the County north, east, and south of the city limits. Expanding the service area protects groundwater, our drinking water source, and increases the customer base, lowering the overall wastewater cost per household.



Mishawaka's wastewater plant is unique because of its location near downtown and within the Lincoln Park neighborhood. The facility is surrounded by houses, condominiums, apartments, parks and the Riverwalk. Much effort is expended to be a positive member of our community. The buffer once provided by the river disappeared as the section of Riverwalk between Kamm Island and Kate's Garden was completed. Hundreds of "riverwalkers" pass by the facility each week and many positive comments have been received about the appearance of the treatment plant. As the public is drawn closer to the facility, housekeeping and maintenance have become more important than ever. Treatment plant staff takes pride in efforts to keep the facility an attractive asset of the community.

In addition to the treatment plant, the Division also operates the Biosolids Facility on South Logan St. which is the site for the solids dewatering operation and the land application program. Another Division responsibility is monitoring of industrial dischargers through the Division's Industrial Pretreatment Program. Significant industrial dischargers are monitored and regulated to assure that their discharges do not harm the wastewater treatment plant processes. The Wastewater Division operates a laboratory that provides process control testing and regulatory compliance analysis. The laboratory is state certified for drinking water analysis and also performs testing on city swimming pools for the Park Department.

The Division is responsible for certain aspects of the City's sewer system. These responsibilities include the maintenance of 28 remote sewage pump lift stations, operation of five remote odor control facilities, monitoring and reporting on the activity of the 23 combined sewer overflow (CSO) structures, and the operation of the combined sewer overflow control program. Lift stations are required when flow cannot continue by gravity and the wastewater must be elevated so that flow by gravity can resume.

Mishawaka's lift stations range in size from 150 gallons per minute (gpm) to 2,800 gpm. The oldest station was placed in service in 1952. A new regional lift station that serves

the Saint Joseph Regional Medical Center, medical campus, and the northeast part of the City was brought on line in early 2011. Lift stations are continuously monitored by a radio based telemetry system. Mike Mezykowski and Dave Hoskins lead our maintenance team in keeping these vital assets in good working order.

Critical stations are equipped with stand-by generators in case of power outages and the others have transfer switches and receptacles to allow for portable generator operation. Since newer lift stations tend to be far from the treatment plant, in the outer reaches of the collection system, all new stations are required to have permanent stand-by generators. There are now five odor control systems to treat air emissions from the sewer system in operation. The Wastewater maintenance department also maintains these units.

The Treatment Process

The treatment plant is designed to operate in the conventional activated sludge mode. The activated sludge process is a biological treatment process in which a mixture of wastewater and activated sludge bacteria are aerated and mixed. Organic pollutants and ammonia, phosphorus, and heavy metals are removed in the process. Ammonia removal is required because it is toxic to aquatic life and it creates an oxygen demand, lowering the level of dissolved oxygen in the river. Phosphorus is removed both biologically and by chemical precipitation using ferrous chloride. Phosphorus removal is required because excess amounts in the river can cause oxygen depleting algae blooms that harm aquatic life.



Solids generated in the treatment process are biologically converted in an anaerobic environment to simple organic compounds and become known as biosolids. These biosolids are land applied on area farm fields for soil conditioning and fertilizing. Land application of biosolids is recycling in its truest sense. A byproduct of anaerobic digestion is methane gas. The gas is captured and compressed and is used as a fuel in the treatment plant boilers. Hot water generated by the boilers is used to heat the facility's buildings and to also heat the anaerobic digester tanks. Digester gas is a free and renewable source of energy. Utilizing digester gas offsets the amount of natural gas that must be purchased.

The treated effluent from the facility is disinfected with sodium hypochlorite and then treated with sodium bisulfite to remove any remaining chlorine. At the very end of the process the effluent is aerated to add dissolved oxygen just before discharge to the river. The treated effluent is ten times cleaner than required by law.

Significant Projects in 2011

Lift station Computer Upgrade

The Wastewater Division is responsible for the operation and maintenance of lift stations in and around the City. In addition to routine inspections, all stations are monitored remotely for operating status and alarms through a radio-based computer network. During the year, the Division began a project to upgrade the main computer interface which monitors and reports lift station status at the wastewater plant. The original computer interface and monitoring software was installed in 2002 and had become outdated. The new system will be compatible with existing control and monitoring systems that were installed at the Wastewater Plant during the 2008 facility upgrade. When completed in early 2012, the upgrade will provide a reliable and stable lift station monitoring system for years to come.

Electrical hazard Assessment

During the year, a new regulation regarding work within electrical cabinets was established through OSHA. The new regulation is intended to protect workers from arc-flash. This danger is present when working in energized electrical panels. An arc-flash is an electrical explosion that occurs when electrical wires are accidentally grounded or shorted. The Division's maintenance staff routinely works on energized equipment and it is of utmost importance to provide for their protection. The Division initiated a study to identify potential arc-flash hazards. The study will include labeling of electrical devices that require special protective equipment and procedures, and training of employees who deal with these hazards.

Hospital Lift Station and Rivercrossing #2 Expansion

The Holy Cross Parkway lift station was placed into service in early 2011. This large, regional facility serves the Saint Joseph Regional Medical Center and associated developments. It will also serve new development in the northeast section of Mishawaka. Connecting this new lift station to the existing sewer system is a new forcemain that runs from Edison Lakes Parkway to Central Park in downtown. An existing rivercrossing at Central Park was expanded to convey current and future flow from the Holy Cross lift station as well as peak flows during wet weather to reduce combined sewer overflows.

Award Winning

Mishawaka was recognized at the 75th annual conference of the Indiana Water Environment Association (IWEA) held in Indianapolis in November. Two Division

Two Division employees received awards from the National Water Environment Federation

employees received awards from the National Water Environment Federation (WEF), the parent organization of IWEA. Assistant Manager Tim Brill received the

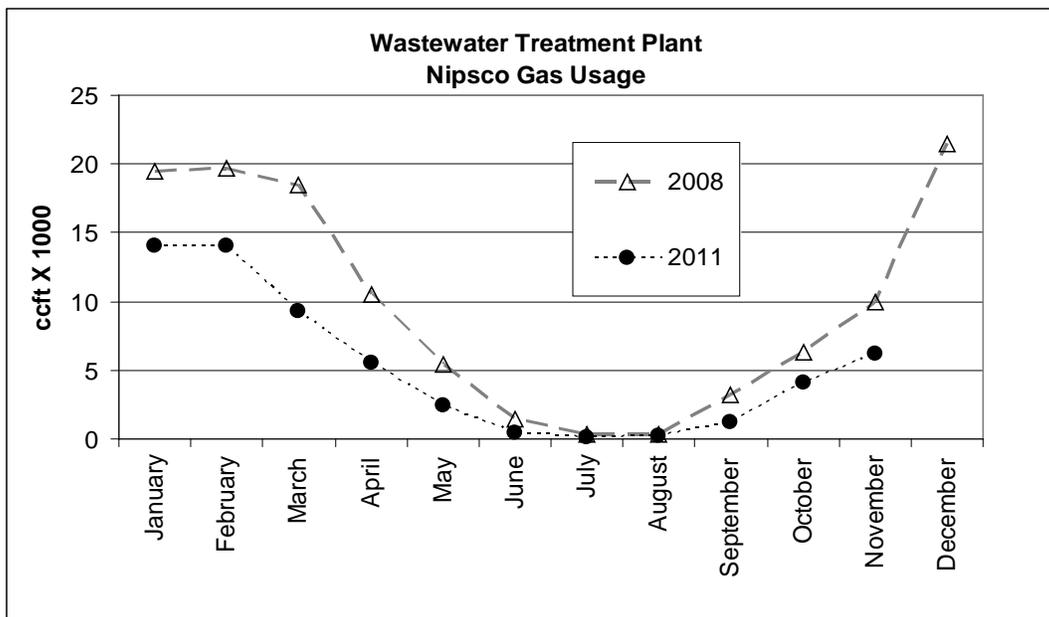
William D. Hatfield Award for outstanding performance and professionalism in the operation of a wastewater treatment facility. Tim joins past Mishawaka Hatfield recipients Karl Kopec (2010) and the City's first wastewater manager Ronald Kroenwitter (1957). Chemist Jill Norton received the WEF Laboratory Analyst Award recognizing individuals for outstanding performance, professionalism and contribution to



the water quality analysis profession. The Wastewater Division laboratory received a Laboratory Excellence Award for the 10th consecutive year. The laboratory provides analysis for compliance monitoring and process control. In 2011 nearly 39,000 samples were analyzed. Chief Chemist Ken Botka and chemists Larry Pozgay, Tom Florkowski, and Jill Norton continue to exemplify excellence in laboratory operation.

Efficiencies

Wastewater treatment plants are large consumers of energy. In the treatment process, aeration and pumping require the highest energy usage. To reduce this demand, one of the first high-efficiency turbo blowers in the state of Indiana has been installed. Eligible for grant funding under the American Recovery and Reinvestment Act Green Project Reserve, the new turbo blower passed EPA green initiative requirements. The turbo



blower has the potential to reduce aeration electrical consumption by more than 30 percent and requires less maintenance compared to the existing blower. The new turbo blower was placed in service in July of 2010 and 2011 was its first full year of operation.

Digester gas which is produced in the treatment process is also recovered and burned in the new plant boilers to provide “free” energy that replaces natural gas. Much time was invested in 2011 fine-tuning the digitally controlled heating and ventilation system that serves all the facility’s buildings and connecting tunnels. This effort has significantly reduced the plant’s reliance on natural gas while maximizing the use of “free” digester gas.

Mishawaka has documented a 16 percent improvement in overall wastewater energy performance. The facility has decreased natural gas consumption 29 percent between 2009 and 2011. This is a significant achievement considering the 2008 treatment plant expansion required a 35 percent increase in heating capacity due to increased building area and safety code mandated increases in building ventilation. Improvements to the digester system have increased digester gas production an average of 15 percent. Digester gas utilization has risen from 40 percent or less to nearly 70 percent. The new central heating system more efficiently burns digester gas and distributes “free” heat wherever it is needed. Maintenance Technician Mike Kubisiak deserves credit for spending many hours and much effort in optimizing the complex heating and ventilating systems.



Lighting upgrades in mid-2010 have reduced the energy required to light the large facility. A computer monitoring and control system was installed to assist in plant operation, control, and data acquisition. In spite of two major plant expansions in 1992 and 2008, the wastewater division has fewer employees today than in 1992.

The treatment plant staff continued to look for opportunities to increase energy efficiencies and reduce energy consumption and cost. The Mishawaka Wastewater Plant volunteered to participate in a two-year Energy Pilot Project sponsored by EPA and the Indiana Department of Environmental Management. The pilot project concluded in September of 2011. Along with seven other Indiana wastewater and water utilities, Mishawaka is developing an energy management system (EMS). EMSs track energy use and look at measures that might be available to reduce consumption and maximize available energy. The result of the pilot project is a more energy efficient wastewater plant for Mishawaka’s ratepayers. Lessons learned in the project will be included in a guidance manual that will be made available to all Indiana water and wastewater treatment plants.

During the year, plant staff continued its focus on energy use and efficiency. An energy management team was formed that includes representatives from management, maintenance and operations. The team looks at where significant energy use occurs, and tracks energy consumption. A new power quality meter was purchased to analyze energy

consumption at individual process units and to perform studies to determine optimum efficiency.

The Division also continued to work toward becoming a paperless operation. With the installation of the new SCADA computer system in the last expansion, collection of data is now occurring electronically. All of the paper chart recorders have been taken off-line and the operations data is digitally collected and archived directly on computers.

...collection of data is now occurring electronically

The operation of the treatment plant is accomplished by a team of dedicated operators that provide coverage 24 hours a day, seven days a week. This includes 3 shifts with 2 operators on each shift, and two swing shift operators. Operators include Robert Hall, Mike McDonald, Adrian Peterson, Mike DeCocker, Jim Szulczyk, Dave Pieters, Jim Settles, Johnny Francis, Tim Wells, and John Bolinger. Each pair of operators is responsible for making process control decisions on their shift. On off-shifts, weekends, and holidays the plant is staffed solely by these two-person crews.

Safety Milestone

On September 19th the Wastewater Division reached 1,000 days without a lost time injury. This amounts to over 140,000 person hours worked during this impressive stretch of safe work days. By year's end this achievement was extended to 1,100 days. The wastewater industry presents numerous hazards and records higher than average occupational injury rates. The staff deserves credit for working smartly and keeping safety a high priority.

...1,000 days without a lost time injury

Combined Sewer Overflows

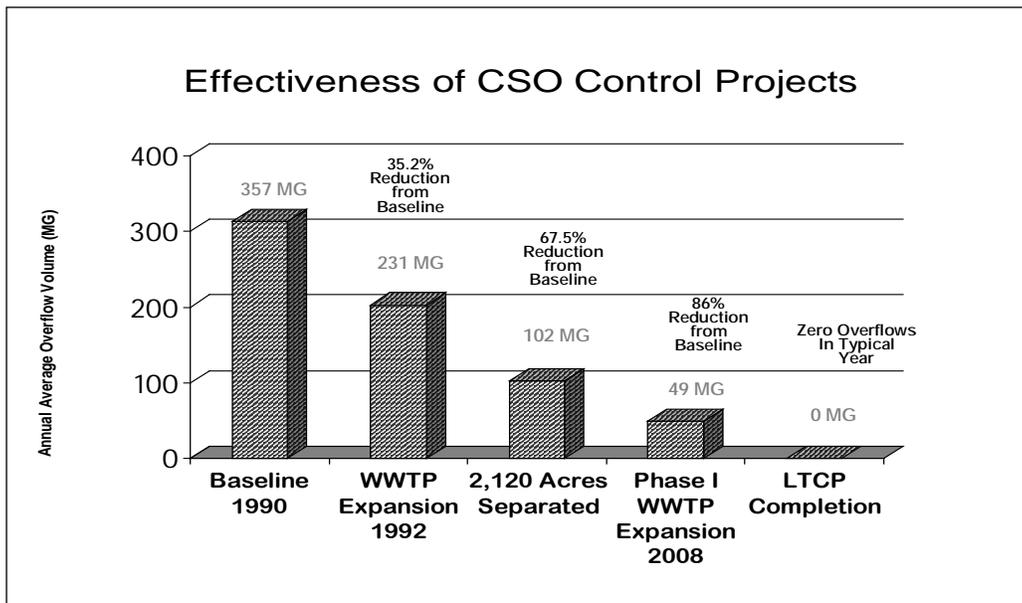
Although the wastewater treatment plant has been upgraded and expanded to keep pace with growth in the community and ever more stringent environmental regulations, there are parts of the sewer system that date back to the early 1900's. These remaining older sewers carry both sanitary sewage and stormwater runoff in the same pipe and need to be addressed to minimize combined sewer overflows (CSOs).

During heavy rainstorms, when the capacity of the sewer system and treatment plant is exceeded, combined sewer overflows can discharge a mixture of stormwater runoff and wastewater directly into the river without treatment. CSOs were designed and built to prevent basement backups and street flooding in the early days of wastewater treatment. Mishawaka is one of 90 communities in Indiana with combined sewer overflows. There are around 850 CSO communities nationwide.

The reduction of CSOs to the river during wet weather is now required by federal law. Sewer design that made sense in the last century is not acceptable today. CSO reduction is one of the City's top priorities. Since 1990 Mishawaka has reduced annual CSO volume by more than 86%. This significant reduction has been achieved through a

combination of treatment plant expansions, sewer separation projects, and sewer system capacity upgrades. ***Mishawaka has reduced annual CSO volume by more than 86%*** Mishawaka has developed a federally mandated long-term control plan to address the remaining combined sewer overflows.

Throughout 2011 the City continued negotiations with the US Environmental Protection Agency, Indiana Department of Environmental Management, and the Department of Justice over its Long Term Control Plan. A final draft was submitted to the agencies in December for review. The proposed plan will vastly reduce the occurrence of CSO from the current 50 overflows per year to zero overflows in years with typical rainfall.



Although Mishawaka’s CSO control plan has not been formally approved, the City is proactively addressing the problem. In 2010 and 2011 the Milburn Blvd. area underwent extensive sewer separation work which removes rainwater runoff from the sanitary sewer system. Getting stormwater out of the sanitary sewer system reduces the frequency and volume of combined sewer overflows. An expansion of Rivercrossing #2 was completed in 2011 that is a component of the LTCP. Also, design contracts were awarded for CSO LTCP projects in the Wilson Boulevard area and a small, final phase of the Milburn Boulevard Area sewer separation project.

In December of 2010 a \$37 million Sewage Works revenue bond was sold to complete the sewer improvements in the Milburn Blvd. area and to fund the next phases of the CSO long term control program.

Statistics

In 2011 the wastewater plant treated over 4.2 billion gallons, averaging 348 million gallons monthly and 11.4 million gallons per day. The treated flow was a half billion gallons more than in 2010. This was due to greater total precipitation in 2011. Maximizing the flow to the treatment plant during wet weather is important as it reduces the volume of combined sewer overflows.

...over 7 million pounds of pollutants were removed in the treatment process

In 2011 over 7 million pounds of pollutants were removed in the treatment process and the quality of treated discharge to the Saint Joseph River was exceptional; ten times cleaner than required by law.

Mishawaka's wastewater facility has an average design flow capacity of 20 million gallons per day (MGD) and a peak design flow capacity of 42 MGD. The highest peak flow treated in 2010 was 59.7 MGD on November 14th. The maximum daily flow treated during the year was 20.9 million gallons on May 15th. Treating flow in excess of the design capacity requires skillful operation and a well maintained facility. Pollutants removed during 2011 included 6.7 million pounds of organic compounds, 73 thousand pounds of phosphorus, and 439 thousand pounds of ammonia nitrogen.

Treatment Plant Statistics

	2005	2006	2007	2008	2009	2010	2011
Average Flow (MGD)	11.91	12.15	11.53	14.23	12.64	10.16	11.43
Peak Flow (MGD)	28.2	26.7	36.3	36.1	27.5	58.8	59.7
BOD Removed (% removal)	98	97	97	97	98	98	98
Phosphorus Removed (% removal)	79	77	79	79	78	79	79
Ammonia Removed (% removal)	80	85	90	96	96	93	90
Solids Removed (% removal)	97	96	96	96	97	98	97
Biosolids Produced (tons)	1068	1254	967	911	826	1115	1093
Electricity Use (MKWH)	Pre-Expansion				5.283	4.874	4.922
Gas Use (Mcf)	Pre-Expansion				9.914	7.691	7.055
Total Precipitation (inches)	38.3	47.1	49.1	51.6	44.9	33.7	43.33

Biosolids, the stabilized solid material resulting from the treatment of wastewater, are land applied on area farm fields. In 2011, almost 1100 tons of biosolids were processed.

Farmers desire biosolids because it contains nitrogen and phosphorus, reducing the amount of commercial fertilizer that must be used. It also improves the quality of the soil. Digester gas is generated in the anaerobic digestion treatment process. This gas is 65% methane and is captured and burned in the treatment plant boilers supplying heat to the facility's buildings and providing heat required by the treatment process. Approximately 60 thousand cubic feet per day is generated, replacing purchased natural gas.

Looking Ahead

Final approval of Mishawaka's LTCP is expected in 2012. The plan is estimated to cost between \$140 and \$160 million and to take 20 years to fully complete. Because Mishawaka discharges into an interstate river, the approved plan will be enforced by a federal consent decree. The decree will require that the LTCP be implemented according to schedule and that it meet the goal of zero overflows.

Mishawaka's National Pollutant Discharge Permit (NPDES) expired in November of 2011. This 5-year permit is the facility's operating license. The City applied for renewal of the permit in May and is awaiting a draft permit for review. The new permit will contain mercury limits for the first time. The new discharge limit will be 1.3 parts per trillion. This is an extremely low limit. One part per trillion is the equivalent of one inch in 16 million miles! Wastewater plants are not designed to specifically remove mercury and consistently meeting such a strict limit is not feasible for most large wastewater plants. Even though Mishawaka's plant removes over 95% of mercury that enters the facility, the 1.3 part per trillion limit cannot always be met. The State allows treatment plants to apply for a variance of the limit if a mercury minimization plan is submitted and instituted. Other new conditions or stricter limits may be proposed by the State. Considerable negotiation will be required to assure that the new permit requirements are protective of public health and the environment, but also achievable.

Conclusion

Mishawaka is fortunate to have a modern wastewater treatment plant with capacity to keep Mishawaka moving forward. Aggressive combined sewer overflow control efforts have positioned the city well ahead of many Indiana communities. Protecting and enhancing the Saint Joseph River as well as promoting health in the community are benefits that all of Mishawaka's citizens can enjoy.

Sewer Department

Tom Dolly, Manager

The Sewer Maintenance Department had an exceptional year in 2011. The Sewer Department is a well equipped and cross trained group of eleven employees. Department



assets include two combination cleaning trucks, video inspection equipment, and repair equipment to maintain over 200 miles of sanitary sewers and storm lines.

Our crew is one of the most versatile, and enthusiastic groups in the City. One of the most significant responsibilities of the Sewer Department is to maximize the volume of flow transported to the Wastewater Treatment Plant. This is accomplished by scheduled maintenance of the larger collector sewers, which convey flow from all sewers under normal flow conditions. The Sewer Department has a well planned, rigorous schedule of preventative maintenance. The Sewer Department also performs tasks for Electric, Water, Parks, Streets, and the Wastewater Treatment Plant.

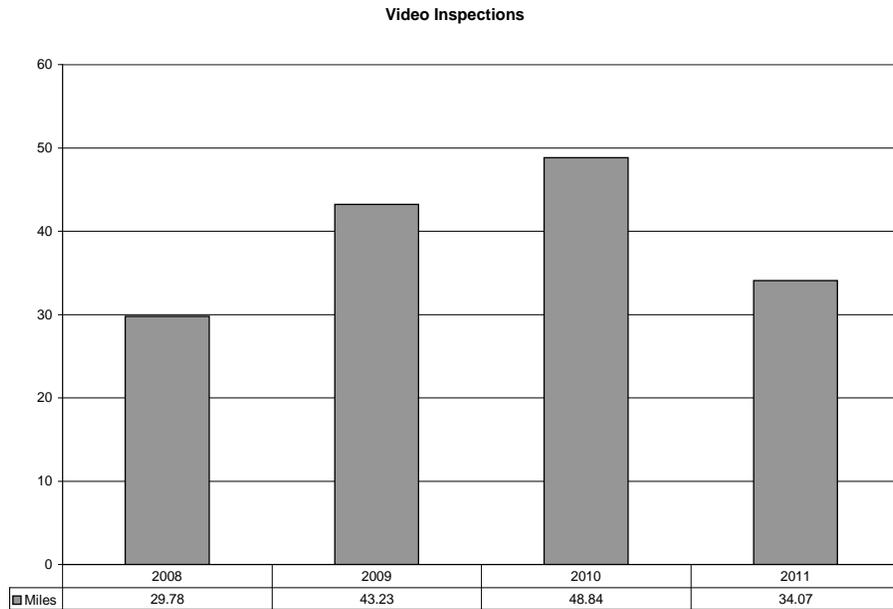
...a well planned, rigorous schedule of preventative maintenance

certificates from the National Association of Sewer Service Companies (NASSCO). This intense, three day course provided the Department employees with the most extensive training they have ever received. This training provided the foundation to move forward with new video inspection equipment recently purchased.

In 2011 the Sewer Department Employees attended Pipeline Assessment Certification Program classes and earned

The Sewer Department is responsible for infrastructure maintenance and rehabilitation of the sanitary sewer system which includes approximately 200 miles of sanitary sewers and all sanitary manholes. Storm sewer maintenance includes cleaning storm sewers and related inlets, catch basins, as well as manhole maintenance and cleaning. The Department inspects new sewer system extensions to ensure their proper installation.

Sewer televising, including private sewer laterals, assists homeowners in identifying sources of problems.



PREVENTATIVE MAINTENANCE SUMMARY

	Number	Feet	Miles
Sanitary Sewer Jetted and Vactored		50,238	9.514
Sanitary Sewer Root Cut		1,534	0.290
Sanitary Sewer Dragged		0	0
Combined Sewer Jetted/Vactored		78,772	14.918
Combined Sewer Root Cut		12,886	2.440
Combined Sewer Dragged		0	0
Storm Sewer Jetted and Vactored		475	0.089
Storm Sewer Root Cut			
Storm Sewer Dragged		0	0
Inlets Cleaned	383		
Catch Basins Cleaned	474		
Drywells Cleaned	3		
Manholes Cleaned			
Vactoring Hours	1,337		
Sanitary Sewer Back-Up			
Storm Sewer Back-up			

The four divisions within the Sewer Department are the Video Inspection Crew, the Cleaning Crew, the Repair Crew and the Utility Crew

The video inspection crew is well equipped with robotic cameras which can travel up to 1200 feet, take video and still pictures, and record data to a computer in the camera truck.



Printed inspection reports are generated in the truck. The Department purchased two new video inspection trucks that have the newest technology in video inspection equipment. Several select employees were given extensive training on the new equipment which includes remote cameras, and a new data collection system. Field data can be uploaded to the City GIS. The video inspection crew is comprised of two main Camera Operators, and several cross trained individuals. The department collects video of sewer conditions to determine which sewers need jetting and vacuuming, dragging for heavy debris, or root removal. Video inspections also reveal the integrity of sewer lines and provide documentation on lines that have been repaired.

Cleaning Crew

The Cleaning Crew has two combination trucks. The Aquatech and the Vector are operated by three highly skilled operators and a select group of cross trained individuals. Their main function is to perform scheduled preventative maintenance cleaning on a daily basis. One truck will assist the Video Inspection Crew by cleaning lines before they are televised. The other crew cleans inlets, and catch basins.



As a result of preventative maintenance, we have been able to minimize sewer surcharges into basements, increase volume of flow to the wastewater treatment plant, and decrease combined sewer overflows.

Repair Crew

The Repair Crew is comprised of assigned cross trained employees who perform routine maintenance on storm inlets, catch basins, and manholes. They also perform concrete flat work on sewer repair restoration. The repair crew uses concrete saws, a jack hammer, cement mixer, backhoe, and concrete finishing equipment on a daily basis.





Utility Crew

The Sewer Utility Crew is comprised of cross trained employees that perform many jobs for the Sewer Department. Their jobs can range from doing traffic control for the other crews, inlet patrol, lateral locate inspections, new construction inspections, service requests, mini-cam inspections, and GIS data collection.

MAINTENANCE REPAIR SUMMARY

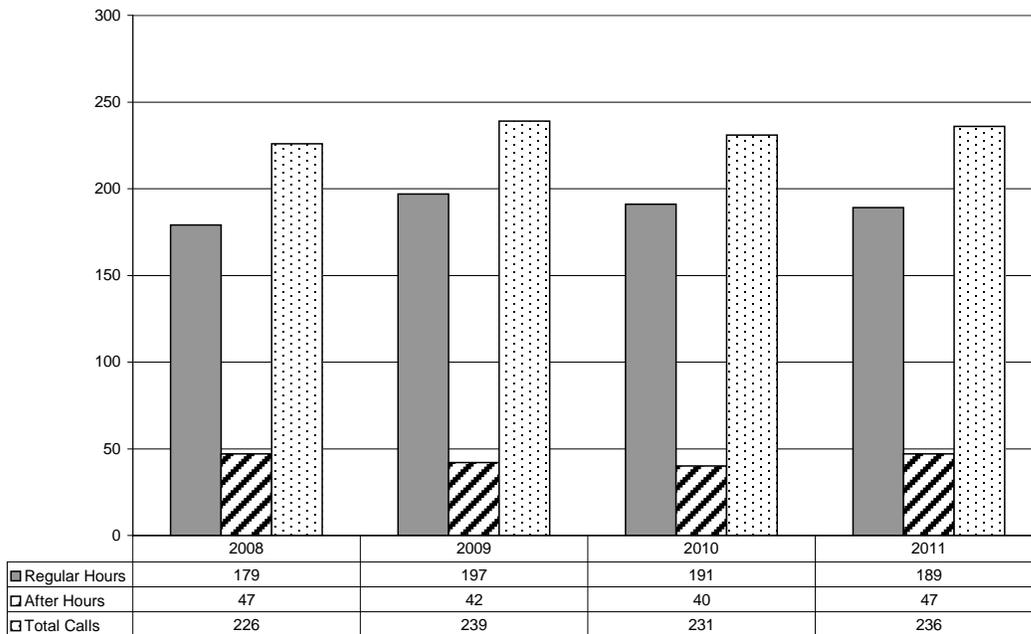
Sanitary & Combined Manhole Entry	12
Sanitary Main Repairs	3
Sanitary Manhole Repairs	3
Sanitary Manholes Replaced	0
Sanitary Manhole Invert Repairs	3
Sanitary Manhole Bench Repairs	0
Combined Manhole Raised to Grade or Exposed	10
Storm Main Repairs	0
Storm Manhole Repairs	7
Combined Manhole Invert/Bench Repair	0
Storm Manhole Invert/Bench Repair	0
Storm Inlet Repairs/Replaced	5
Storm Catch Basin Repairs/Replaced	1
Combined Catch Basin Replaced/Repaired	2
Combined Inlets Repaired/Replaced	7
Bags of Concrete	247.5
Castings	5
Risers	11
Pre-Fabs	0
Sewer Permit Inspections	101
Water Tap Inspections	28
“As-Built” Inspections	6

VIDEO INSPECTIONS

		Feet	Miles
Sanitary Sewer TV Inspected	Existing	85,286	16
	New		
Storm Sewer TV Inspected	Existing	218	0.04
	New	396	0.075
Combined Sewer TV Inspected	Existing	86,522	16.4
Service Lateral TV Inspected	Existing	7,486	1.4
	New	118	
	Total	179,908	34

Over the past year the department responded to 236 calls from residents experiencing sewer problems. Forty-seven of the calls were outside of normal business hours. These problems included odors coming from the sewer line, water standing in the street, or a resident still experiencing problems after a contractor has cleaned their lateral. Repairs ranged from a second cleaning to more in-depth projects such as excavation and lateral replacement. Of the 236 calls, 58 residents qualified for the sewer insurance program. Sewer insurance work orders are set-up and processed by our office personnel. This program has proven to be very successful in assisting Mishawaka's residents with the high cost of sewer lateral repairs.

Residential Service Calls



The Sewer Department continues to strive to improve its preventative maintenance programs and to cost-effectively maintain the current level of services provided. Through its various programs, the Division works to preserve and maintain the City's

major sewer system infrastructure investment. Working together as a team with all Departments has proven to be one of the most important keys to success in 2011.

Mishawaka Utilities Conclusion

Reliable and affordable utilities are important to quality of life and necessary to attract development and encourage growth. Mishawaka's citizens benefit from having a hometown utility company. The 136 employees of Mishawaka Utilities are proud to be a part of what makes Mishawaka a great city that keeps moving forward.

