MISHAWAKA UTILITIES

James Schrader, General Manager

The 144 employees of Mishawaka Utilities pride themselves in providing world class service with a hometown feel. The Utilities consist of the Business Office, which provides support services to Utility's Electric, Water and Wastewater Divisions. The Utilities are under the direction of General Manager Jim Schrader. The Sewer Maintenance Department is funded by Wastewater Division revenue; however the department is under the guidance of the City's Engineering Department.

Hometown services provided by Mishawaka Utilities (MU) mean that residents and businesses can count on reliable, efficient, and affordable electric, water, and wastewater treatment delivery. Problems or interruptions in service are remedied quickly, and when contact with the Utilities is required, a human being is ready to take your call. The employees of MU 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.

BUSINESS OFFICE

Virginia Fras, Manager

…able to interact on a personal level with the Utility's customers rather than through an impersonal automated phone service or a far-away call center

The Mishawaka Utilities Business Office strives to provide World Class Service and believes that "Customer Service is a function of how well an organization meets the needs of its customers." The Mishawaka Utilities Business Office wants to meet customer needs but also exceed them through the services provided. Staff wants to continue to make services convenient, efficient and friendly. It is important to be able to interact on a personal level with the Utility's customers rather than through an impersonal automated phone service or a far-away call center.

The Business Office is staffed with 24 employees who have worked very hard this past year in continuing to improve office efficiencies. Accepted are Visa, MasterCard,

Discover and e-check payments on the Mishawaka Utility website as well as paying by Interactive Voice Response at 800# (866-283-7020). Work will continue with a third party processor for customers who use their local banking site to pay their online bills. This allows customers to pay their bills while eliminating the need to mail a check to the Utilities Office. The use of these services has grown approximately 6% in 2010 and further increases are anticipated in 2011.

The Business Office implemented Document Imaging this year, which is the conversion of paper documents into electronic images through improved computer software. These documents can be retrieved effortlessly in seconds. Document Imaging has become common, making paper filing systems obsolete. The benefits are numerous. Document imaging prevents lost records, saves storage space, manages records easily, locates documents quickly, makes images centrally available, and eliminates the need for filing.

Signing up *A new customer sets-up a utility account*

A Report Management System was implemented this past year, which enables users to securely store, retrieve, separate information, and distribute internally generated documents. With Report Management, spool files become safeguarded by routine backups, so they no longer need to be printed. This new system automates document retention and purges reports based on compliance regulations. This eliminates much of the cost of paper and forms, storage, and labor for handling. With this new system, customers may now take advantage of electronic billing statements (e-Bill Statements).

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 its billing costs, while maintaining customer service and efficiency. With most users achieving full return on investment within the first year, e-Billing is an immediate cost saving solution with benefits that reach far beyond reduced costs.

In addition to its ability to help utilities control billing expenses, e-Billing has proven to be extremely efficient in allowing for faster payments. By signing up for e-Billing, customers can enjoy the following benefits: receive an email when bills are ready to view, download and print billing information whenever is convenient, avoid mail delays

and statements lost in the mail, and avoid missing or delayed statements due to changes in address. e-Billing also helps the environment by saving paper and reducing waste.
The Business Office will continue to anticipate and make changes to cut costs and improve efficiencies as an ongoing goal. Lastly, another significant goal accomplished last year was combining Outdoor Protective Lighting (OPL) statements with customer's monthly utility bills. There were approximately 530 OPL accounts that were being billed separately. Combining these accounts allowed customers to receive one statement for all services provided by the Utilities. This consolidation saves approximately $3,600 a year. Although a few thousand dollars may not sound like a large number, it is not just about the cost savings. It is also to improve customer convenience and service.

Each new year brings changes and presents challenges. The Business Office has already begun planning for software upgrades in order to offer better services and to improve upon current services. Plans are in the works to expand the remittance process, which will reduce hours spent each week on manual sorting and posting of payments. The employees of the MU Business Office value the citizens of Mishawaka and look forward continuing to provide outstanding services in 2011.

ELECTRIC DIVISION

Tim Erickson, Manager

Background

Mishawaka Utility's electric distribution system is the second largest municipally owned utility in Indiana, providing service to 27,035 meters. 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 nearly 50,000. Mishawaka's electric 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.

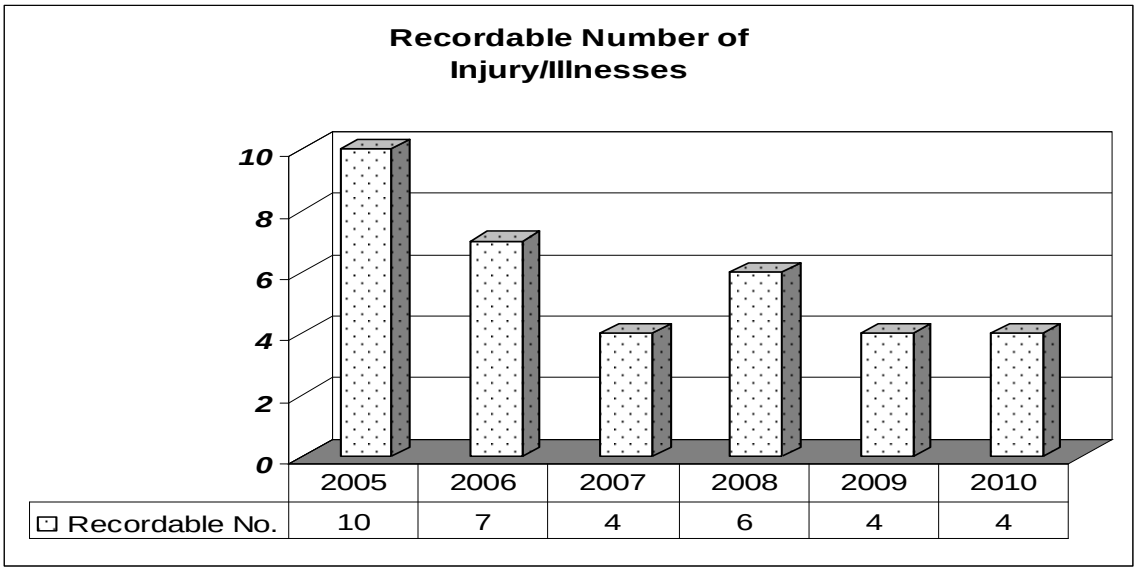
The Electric Division has a staff of 42 employees. The Division is divided into four departments: Engineering, Construction, Metering and Operations. The Mishawaka Electric Division does not generate power. Power is purchased on a wholesale basis from American Electric Power (AEP).

Electric Division Annual Statistics

Process Measure	2009	2010	Percent Change
Energy Usage, Highest Month (month and kW peak demand)	June 132,424	July 138,083	+4.3
Total Energy Purchased (kWh)	587,248,766	597,728,068	+1.7
Total Number of Customers Billed (electric and water)	44,131	44,135	+.03
Engineering Projects Completed	160	112	- 30
Number of Transformers Set	67	70	+ 4.4
Number of Meter Department Work Orders Completed (electric only)	22,161	22,623	+2.1

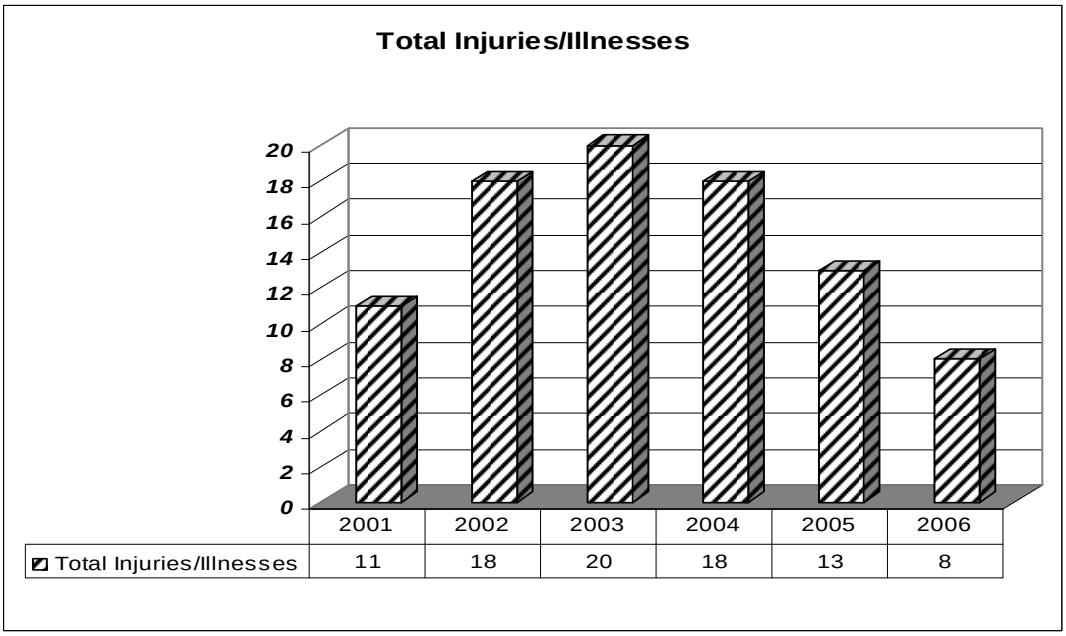
Personnel Safety

The Division completed an annual inspection of nearly 2000 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, safety of our citizens and Electric Division employees is our highest priority.



All construction personnel participated in bucket rescue and pole top rescue at the Logan Street Training Facility. Training was administered by the Indiana Municipal Electric Association (IMEA). This training occurs every year to insure that construction crews

remain current in rescue response. Only four reportable injury/illnesses occurred in 2010. This is unchanged from 2009. The total number of injuries/illnesses decreased by 38 percent.



System Energy Consumption

In July of 2010 the Electric Division hit its annual peak load of 141.9 MVA. This was 4.8 percent greater than the 2009 peak, but 11 percent less than the previous high of 153.6 MVA, set in August of 2006. All distribution equipment operated within design constraints. The Division's SCADA computer system provided continuous up-to-date information on transformer loading and system supply voltages. Energy consumption, total energy purchased for the year, was 597,728,068 kW, up 1.7 percent from the previous year.

Increased Revenue

Electric division revenue from previously unbilled lighting increased about $16,000 per year. This increase includes: $3,000 per year in street lights and OPLs, and $13,000 per year for lighting in City parks.

Reliability and Performance Enhancements

Significant improvements were made to The River View 500 high-rise apartment building. A loop feed was established and inside transformers were replaced with an outside pad-mounted transformer. Riverview Terrace was also included in the new loop feed. Differential trip capability was added to the Russ sub-station with the addition of a Transformer Protection Unit (TPU). Differential trips are intended to detect failures within the transformer.

Training

The lineman apprenticeship program is in its 22nd year. The Joint Apprenticeship Training Program began in February of 1988 and has graduated 23 apprentices to Journeyman Lineman. The training program is a cooperative effort between Local Union IBEW 1392 and the Mishawaka Utilities Electric Division. This program is recognized and registered with the Department of Labor Bureau of Apprenticeship and Training. There are currently six apprentices in the program, each with an accumulated experience base of 5,000 to 7,600 hours in the field. To graduate, an apprentice must have a minimum of 8,000 hours of the job training (4 years) and 576 hours of classroom study.

Line-up *Mishawaka's Journeyman Linemen*

Awards

The construction department personnel participated in three electric rodeos during the year. Electric rodeos are designed to test contestants on their electrical skill and knowledge. At the American Public Power Association (APPA) National Rodeo held in Omaha, Nebraska, the Division's team consisting of Chuck Bailey, Scott Flynn, and David Cochran placed 10th, 15th and 16th respectively. Shawn Bolinger also participated as a coach for the team.

At the Tennessee Valley Public Power Association (TVPPA) Rodeo held in Murfreesboro, Tennessee, Chuck Bailey was the only participant from Mishawaka Utilities and placed 23rd overall. Chuck Bailey was also the only participant at the International Rodeo held in Kansas City. Chuck placed 63rd overall in the World category and 6th overall in the municipal category. Shawn Bolinger participated as a judge in this competition as well.

Four horsemen *Mishawaka's linemen rodeo team*

Engineering and Construction

There were 22 unplanned circuit outages in 2010, with a cumulative unplanned outage time of 30.18 hours. Eight of the twenty two outages were related to storm damage. There have been no AEP initiated outages lasting longer than two minutes as a result of the circuit upgrades completed in 2005. Six of fourteen non-storm related outages were due to vehicles striking utility poles and contractor's damaging system connections during various construction projects.

A component failure resulted in a fire and major damage at the Virgil Substation.

A bushing failed in one of the Grape Substation transformers this past summer. This unit was shipped out for a complete rebuild and upgrade. The transformer has been returned and is in its final stages of testing and is expected to return to service at the end of January 2011.

The Division continues to effectively use the Supervisory Control and Data Acquisition System (SCADA) to remotely monitor real-time status of equipment at all 11 substations. Key SCADA status and control components are tested on a regular basis. At the end of 2010 a fiber optic loop was completed to all substations, enhancing the reliability of system data transmission. By the end of January 2011 primary SCADA communication will be on the fiber loop with the radio system serving as backup.

Preventive Maintenance

The electric distribution system continues to provide reliable power due to 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 and implementation of a fuse coordination program.

The substation PM program helps prevent and mitigate failures and prolongs equipment life. 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 testing 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 environment.

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 hone in on the extent of the outage. During 2010 the GIS played vital role in the high voltage equipment inspection program by creating maps of locations of all high voltage equipment. GIS was also used for maintaining construction and street light work flow, circuit map updates, utility center updates, transformer database, and GPS field work.

Projects
The new 331 expansion project was one of the most significant projects in 2010. This project required the abandoning and relocating of multiple three phase pole lines. Completion of the Front Street Parking Lot Project by upgrading the overhead system to all new underground equipment also occurred during the year. Two other projects requiring significant effort were the Cancer Hematology Center on Douglas Road and the new Del Pillar Cancer Center on Day Road.

In July of 2010 the Division experienced a component failure resulting in a fire and major damage to the Virgil Substation. Mishawaka Electric and Herrman and Goetz crews effectively repaired all the structural steel and electrical components in the substation. The majority of the work was completed in less than 4 months. American Electric Power (AEP) used this as an opportunity to make upgrades in their transmission system. The Virgil Substation is scheduled to be back in service by the middle of February 2011

The Mishawaka Avenue bridge reconstruction included lighting and general site improvement to the surrounding area. Dark sky lighting was continued from Niles Avenue to the West side of the bridge. The current three phase line, that runs overhead, will be replaced with underground service. Conduits have been installed within the structure of the bridge to allow cables to cross the river unseen so that utility poles can be removed. This project completes the substation connection that allows for Borely Substation to connect with the Virgil substation circuit. This work improves the appearance of the park and bridge area.

Metering
The number of electric customers has decreased this year from 27,040 to 26,824.
The Metering department filled a meter reader vacancy in September 2010 in the hiring of Jeff Erickson, previously with the City's Central Services. Also, Justin Overholser became the new Service Representative in 2010.

The meter readers are covering a much larger area compared with previous years. The meter technician van completed over 4,696 work orders. Along with newly implemented testing procedures for current transformers and power transformers, almost 21,000 work orders were completed in 2010.

With meter installs and removals, meter-sets, re-reads, and meter-changes numbers down this year the Division had more time to implement a process directed at providing more timely follow-up and better customer service. The following table depicts performance in the area of work orders.

2010 WORK ORDERS

Work Orders for Electric	2009	2010	Percent Change
Removals	9623	9063	-5.8
Installs	9318	8840	-5.1
Sets	153	82	-46.4
Re-reads	2097	4003	+90.9
Change Meters	544	335	-38.4
Miscellaneous	245	300	+22.4
Totals	21,980	22,623	2.9

Shut-offs and reconnects increased in 2010, perhaps a sign of the current difficult economic environment. The billing office, along with the Electric Division's customer service truck, runs a shut off list three days per week with a special list on Fridays if needed. It is a priority to do follow-up visits to disconnected accounts to check for tampering and theft. The Division continued a program to change meters from three phase mechanical thermal demand type to electronic solid state type metering. Also, single phase A-type base adaptor upgrades continued during the year. A program was implemented to replace single-phase meters that have been in use over 20 years, many of which result in a loss in revenue due to excessive mechanical losses. The following table depicts performance in the area of shut-offs. The Division will continue to move forward with these programs and research new programs to improve on service delivery to all the customers of the Electric Division.

…new programs to improve on service delivery to all the customers of the Electric Division

Shut-offs	2009	2010	Percent Change
Past-Due Amount	329,462	324,053	-1.6
Total Amount Due	629,548	637,763	+1.3
# Shut-Offs	2969	3357	+13.1
# Bad Checks	41	25	-39
# Payment Plans & Extensions	118	142	+20.3
# Payment Plan Deposits	255	334	+40
Shut-Off Totals	3383	3858	+14

Operations

The Operations Department purchases, coordinates and maintains all goods, services and rolling stock for the Electric Division. In conjunction with the Business Office, the Operations Department generates bills for contracted services and claims for damages to facilities due to traffic accidents and contractor dig-ins. The Operations Department also assists the Accounting Department in keeping accurate material and accounts payable records, and by generating all purchase orders and job costing reports.

The Operations Department is also responsible for dispatching crews and providing assistance to both customers and other Divisions. In addition, Operations tracks the SCADA system that monitors the entire substation network.

Special projects completed in 2010 at the 12th Street Service Building include the climate control system redesign that included adding air conditioning to some offices and splitting the building heating and cooling system into two zones to provide adequate climate control in the entire facility. The new unit that was installed is far more energy-efficient than the original and should save money in cost of operation. The Division also followed the City's lead with the installation of new high-efficiency environmentally-friendly lighting. New fixtures were installed in all indoor areas and on the outside of the building. This should result in lower lighting costs. Finally, Central Services personnel completed a painting project in an effort to brighten the look of the offices.

The control of unwanted vegetation growth in our substations is contracted to a local electrical contractor. Contracting the vegetation control to an outside firm has saved money and man hours versus purchasing the herbicide and applying it with Division staff. 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.

The Vendor Managed Inventory system (VMI) continued in 2010. The Division continued a partnership with HD Supply Utilities, to maintain the inventory management system. HD Supply acts as the primary vendor for line construction and maintenance material. The VMI partnership allows the Division to minimize inventory on hand. Needed items can be quickly supplied by HD Supply from their warehouse.

At any time, the VMI system can be queried to give information regarding on-hand material quantities and current material values, either for individual items or for the entire on-hand stock. All materials have been assigned minimum and maximum stocking quantities. After the second full year of the VMI, the results show a reduction of our on-hand inventory levels and associated costs.

Safety

Working safely is one of the most important aspects of the Division's mission. One facet 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. Structural safety is basically defined by condition of the equipment. 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. Last year additional PPE was provided to employees by issuing flame retardant outerwear. Any employee whose job would place them in a situation where an electrical arc flash could occur is issued flame retardant (or FR) outerwear.

Working safely is one of the most important aspects of the Division's mission

The Electric Division strives to maintain financial efficiency while demanding and the highest quality products and services from our vendors. The Operations Department wrote purchase orders for approximately $1,462,810.00 in goods and services in 2010. This is virtually identical to orders written in 2009. Purchases of $176,418.00 for inventory materials from non-VMI vendors and $685,304.00 for distribution transformers helped us to reach these figures. Again, these figures do not include goods and services from blanket purchase orders or inventory material purchased from HD Supply through the VMI system ($681,674.00). However, this figure did include the cost to rewind a failed substation transformer at the Grape Road substation ($244,500.00).

Although overall spending increased in 2010, there were major endeavors to which these expenditures can be tied. The Main Street corridor development and the State Road 331 project were two of these projects. Also, additional increases in spending can be attributed to the continued high fuel costs during 2010 which is ultimately passed on to the end users of the goods purchased. Increased purchase costs related to wire and street lighting are due to continued special projects and an aggressive street light maintenance and installation program. Finally, an increase in both planned and unplanned projects, such as the rewind of the Grape Road transformer and the costs associated with the restoration of the Virgil Substation drove our spending to a level well over that of 2009.

Operations generate additional revenue for the Electric Division by processing billings for traffic accidents, damage to facilities by contractors, and construction costs outside the normal scope of service. Billings generated in 2010 totaled over $63,730.00 with an additional $3,905.00 in "Hit and Run" accident billings. Hit and Runs are processed like normal billings, although no responsible party was identified at the time of the accident. We hold these Hit and Run billings pending further police investigations that may produce information identifying the party responsible for causing the damage.

The Operations Department continues to strive for efficiency in the administration of procurement and accounting, the management of materials and services, and the maintenance of the fleet and facilities. Although operations serves as an integral support department for the Electric Division, it is also here to aid other divisions within Mishawaka Utilities and other departments in the City with any requests for assistance.

During 2010, Victoria Achterberg completed her sixth year of service with the Electric Division as a Clerk Dispatcher "A". The Dispatch office is also staffed by our senior

Clerk Dispatcher "A", Charles Brunner. Chuck is a thirteen-year dispatch veteran. These employees provide critical support to the rest of the Electric Division. These very capable people keep the Operations Department running smoothly.

Recognition of Outstanding Performance

Chief Engineer Gordon Allen directed the rebuild of Virgil Street Substation including in place repair of the station transformer, installation of a new oil spill containments pit, development of design specifications, oversight of all contractors, and coordination of all crews and interface with AEP. Electric Division crews handled the structural rebuild of the substation, providing them with a unique experience and opportunity to learn steel structure, copper buss work, installation of various insulators, switches, regulators and related equipment.

Kevin McGann partnered with Brian Adams of Bremen to develop and implement a Mishawaka school Electrical Safety Training Program. The training shows 5th graders live 15 kV arcing and demonstrates the importance of safety equipment. This program is one of the most important community programs to teach electrical safety.

Challenges Ahead

In 2011 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 the training and safety. Electrical equipment inspections will include all pedestals in 2011. With almost six thousand units in the database, all are checked for security and warning signs.

A big challenge looms ahead in renewable energy and demand side management requirements. As new law becomes 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. 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. One of Electric's linemen just hit a never before achieved milestone - 100 for 100 in consecutive after hours callouts.

As energy costs continue to rise, Electric Division customers enjoy very low rates

The IMEA will host its first annual lineman's rodeo in Anderson next fall. Mishawaka has committed to the organizational committee with Tim Erickson and Kevin McGann, both will serve on the committee and both will serve as chief judges at the competition. Additionally Mishawaka will host the IMEA climbing school at the Logan Training Facility in April.

2011 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

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 2010 unplanned outages totaled 14 non-storm related interruptions. Six of the fourteen were due to vehicles striking poles or contractor's damaging electric lines. The Virgil Street Substation fire was a good example of our response. Although it was one of the most dramatic events, all circuits were rerouted and restored in under six hours. Crews worked together with contractors and rebuilt the substation structure in less than 4 months. The Division's total staff has decreased from 57 to 42 employees in the past 4 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.

WATER DIVISION

Bruno Trimboli, Manager

…three water treatment plants with their combined capacity of thirty million gallons of water per day

In 2010, the 29 MU Water Division personnel strove to supply our 46,000 customers with potable water via 17,100 service connections. As always, the objective was to deliver exemplary customer service along with potable drinking water that would meet or exceed Federal and State drinking water standards. Simultaneously, the Division's goal was to work to keep production costs to a minimum through improved efficiency achieved by perfecting the manner in which we conduct business. These efforts were applied to the operation and maintenance of three water treatment plants with their combined capacity of thirty million gallons of water per day, six water booster stations, four elevated water storage tanks totaling 6.75 million gallons of elevated storage, and over 280 miles of water distribution main in the water system.

Water Service Summary

MONTH	VIRGIL WELL FIELD	DIVISION WELL FIELD	GUMWOOD WELL FIELD	TOTAL FINISHED
January	79.19	105.22	5.91	190.31
February	74.22	96.66	4.09	174.98
March	132.50	55.43	3.61	191.54
April	169.02	27.88	7.39	204.29
May	93.89	148.81	6.48	249.19
June	145.79	105.30	6.87	257.97
July	225.97	114.16	8.77	348.91
August	218.55	137.23	10.02	365.80
September	125.29	143.24	7.99	276.51
October	125.45	108.67	5.55	239.68
November	73.15	102.99	3.76	179.89
December	77.48	107.63	2.40	187.51
Total	1540.50	1253.22	72.85	2866.56
Average	128.37	104.43	6.07	238.88
Max	225.97	148.81	10.02	365.80
Min	73.15	27.88	2.40	174.98

In order to achieve the stated mission, the Water Division is organized into 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 the water treatment plants and well fields, and for the comprehensive testing of the drinking water in accordance with Federal and State regulations.

Water quality throughout the distribution system from the supply wells to the customer's service line, was monitored and maintained through over 19,455 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 by this group. The Annual Drinking Water Quality Report that is provided to customers is published by the Water Quality/Operations group. This report summarizes the results of the comprehensive testing in accordance with USEPA regulations. For the sixth consecutive year, the MU Water Division was awarded the Water Fluoridation Award by the U.S. Center for Disease Control and the U.S. Department of Health and Human Services.

Protection of the aquifer, the source for Mishawaka's drinking water, falls on the shoulders of the Well Head Protection Coordinator. In 2010, the Well Head Protection effort worked to identify and confirm thousands of potential sources of ground water contamination and to integrate this information with the GIS resources. This included locating abandoned private 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. A very important achievement was the updating of

Water Quality Laboratory Testing Totals 2010													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
Conductivity	126	120	160	132	148	126	132	132	154	148	132	138	**1,648**
Manganese	126	120	160	132	148	126	132	132	154	148	132	138	**1,648**
Iron	126	120	160	132	148	126	132	132	154	148	132	138	**1,648**
Hardness-Calcium	126	120	160	132	148	126	132	132	154	148	132	138	**1,648**
Alkalinity	126	120	160	132	148	126	132	132	154	148	132	138	**1,648**
Total Hardness	126	120	160	132	148	126	132	132	154	148	132	138	**1,648**
Fluoride	114	104	138	112	136	111	112	115	134	136	112	112	**1,436**
Phosphate	84	80	92	88	84	88	88	88	88	84	88	88	**1,040**
Free Chlorine	124	112	124	120	120	120	124	124	120	124	120	124	**1,456**
Total Chlorine	124	112	124	120	120	120	124	124	120	124	120	124	**1,456**
pH	128	122	162	134	150	128	134	134	156	150	134	140	**1,672**
Temperature	128	122	162	134	150	128	134	134	156	150	134	140	**1,672**
Routine Bacti	50	50	50	50	50	50	50	50	50	50	50	50	**600**
Other Bacti	0	5	0	2	4	6	3	1	9	8	3	4	**45**
Raw Bacti	0	0	22	0	22	0	0	0	22	22	0	0	**88**
TSS	2	2	2	2	2	2	2	2	2	2	2	2	**24**
Radionuclides	0	0	0	0	3	0	0	0	0	0	0	0	**3**
Nitrate	0	3	0	0	0	0	0	0	0	0	0	0	**3**
TTHM's & HAA5	0	18	0	0	18	0	0	18	0	0	18	0	**72**
Monthly Totals	1,510	1,450	1,836	1,554	1,747	1,509	1,563	1,582	1,781	1,738	1,573	1,612	**19,455**

the one year and five year delineations of time-of-travel zones and the submission of Phase II of the Water Division's Well Head Protection Plan to the Indiana Department of Environmental Management as required by Federal law. The Water Metering /Backflow/Cross Connection group is responsible for enforcing the testing of the many backflow devices located throughout the 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 Division's backflow inspectors tested 2,265 backflow devices in 2010.

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 water meters. Most of this work is done on a pre-scheduled basis, but often these personnel are required to respond to unscheduled calls via radio dispatch. Water meters not only are necessary to allow for billing customers for water and wastewater services, but they also help to determine the type and trends of service required. Customer emergencies account

for much of the Meter Department's efforts. Over 5,400 work orders were completed by the Meter Department personnel in 2010.

Digging in *Construction crew installing new water main*

The Water Treatment and Pumping Facility Maintenance group keeps the three water treatment plants and associated well fields in running order. They also maintain the booster stations, pressure control vaults and elevated water storage tanks. Keeping the existing assets in good condition is the key to efficient operation. In 2010, a continuing rigorous effort was put forth to define and improve the operational aspects of the heating and cooling equipment located in all facilities. This is expected to result in improved performance and result in improved cost efficiencies. The update and enhancement of the water system's SCADA control system is over 95% completed as of year's end. Also, the Water Division was awarded a certificate of recognition by the USEPA and IDEM for participation in the 2009-2011 Energy Management Project conducted by those agencies. This is all part of continuing efforts to achieve greater energy efficiencies throughout the Water Division.

The Water Distribution System Maintenance and Construction group had an incredibly hectic year in 2010. 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 customers of the Utility. This group provided comprehensive and prolonged support to the three contractors working simultaneously in the Milburn Blvd. project area and working to re-locate water main and associated infrastructure for the Indiana Department of Transportation in the State Road 331/Capital Avenue project corridor. Also supported were the Main Street, Lynn Street, the Holy Cross Parkway Force Main, and Mishawaka Avenue projects. To accommodate these projects, many existing water mains were re-located, along with fire hydrants and service lines.

According to IDEM regulations lead service lines must be replaced, not repaired, when they fail or are exposed. Over four hundred lead service lines were replaced by the Water Division in conjunction with the work being conducted in the project areas noted above. In fact, some 1.8 miles of copper pipe were installed to accomplish this effort! Water Division support was also provided to the Mishawaka Avenue Bridge project as requested or required.

Fire hydrants are also a key part of the distribution system. There are over 2,700 fire hydrants in Mishawaka's 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 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 activities.

There were many challenges to address in 2010. Because the national economy was suffering a severe down-turn, our customers and commercial developers were adversely affected. This resulted in reduced revenues, but the level of effort demanded of the Water Division was greater than ever. By the end of 2010, there were 29 employees working at the Water Division, down from 41 personnel employed some two years prior. In spite of this, the Water Division's employees continued to meet their commitment to accomplish the Water Division's goals of providing exemplary service to its customers and the City. To accomplish this, Employees were temporarily assigned to the areas where needed, and as a group, the entire Division worked harder than ever.

7.85 million gallons per day of potable drinking water that met or exceeded state and federal drinking water standards

While pumping an average of 7.85 million gallons per day of potable drinking water that met or exceeded state and federal drinking water standards, the Division simultaneously maintained and repaired the extensive treatment and distribution infrastructure while aggressively supporting other City Of Mishawaka and State of Indiana construction projects. The Water Division invested over $450,000 in materials alone to accomplish the infrastructure improvements, which were mostly self-funded. This was done without having to resort to either borrowing or rate increases. This was possible due to extremely frugal conduct in all phases of the Water Division's operation.

Fond Farewell *Water Division 2010 retirees*

Four employees retired from the Water Division during 2010. Mike Dial retired in April, his brother Jeff Dial retired in August, Karen Stemes retired in September, and Brinn Spencer retired in December. These employees collectively accounted for 109

years of experience with the Water Division. Each of them served the Water Division and the City Of Mishawaka with distinction and deserve sincere thanks for their service to the Water Division, and the Utilities wish them well!

The Division looks forward to a number of challenges in 2011. The Water Division will continue to work feverishly to complete the relocation of the sixteen inch water main that currently provides water to the service areas located east of Capital Avenue and the along Twelfth Street, and the service area east of Capital Avenue and along Lincoln Way East (Twin Branch). This is necessitated by the INDOT SR331 project that will cut the existing water mains serving those areas and the expense will primarily be borne by the Water Division. The staff looks forward to continuing its support to the City by moving existing water main and fire hydrants as required, and by replacing lead service lines when exposed as sanitary force main and storm sewer construction continues in 2011. The Division looks forward to the completion of the SCADA control system upgrade that is currently underway. This improvement will enhance system reliability for improved customer service. The Water Division will strive to continue to maintain or exceed potable water standards as required by IDEM and the USEPA. The Water Division will continue to explore and implement more efficient methods for operating the water treatment, pumping, storage and distribution systems that supply water to Mishawaka's citizens and businesses. The Division will continue to deliver world class service to its customers despite the economic challenges that face the Utility. It is anticipated that 2011 will be a challenge, but the Water Division will strive to meet it.

WASTEWATER DIVISION

Karl R. Kopec, Manager

Mishawaka's Wastewater Treatment Plant serves over 17,100 residential and commercial accounts. Annually over 3.7 billion gallons of wastewater is treated prior to discharge into the Saint Joseph River. A recent survey by the British Medical Journal asked health care professionals to rank the most important medical milestone in the last 150 years. To the surprise of many, "the sanitary revolution" topped the list. Safe drinking water and proper sewage treatment were ranked as more important to public health than even antibiotics. The impact of wastewater treatment on public health is often overlooked since the popular focus is on environmental protection. Mishawaka's citizens can rely on a clean river and healthy neighborhoods thanks to a state of the art wastewater treatment plant. The Division employs 26 dedicated professionals with a combined wastewater experience of 411 years. Six employees hold the highest level of professional state certification.

Safe drinking water and proper sewage treatment were ranked as more important to public health than even antibiotics

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's Island and Kate's Garden was completed. 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 make the facility an attractive asset of the community.

Attention to detail *Project Coordinator Marge Pieters prunes landscape bushes*

General Description

In addition to the treatment plant, the Division also operates the Biosolids facility on South Logan St. which is the site for the dewatering operation and the land application program. Monitoring of industrial dischargers is required and is accomplished through the Division's Industrial Pretreatment Program. The Wastewater Division's laboratory provides both process control testing and regulatory compliance analysis. Also, the laboratory is state certified for drinking water analysis. Testing is performed on city swimming pools for the Park Department.

The Division is also responsible for certain aspects of the City's sewer system. These responsibilities include the maintenance of 30 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.

Mishawaka's 30 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 station that services the newly constructed hospital and the northeast part of the City is in the process of being brought on-line. The stations are continuously monitored

Good Neighbor *The treatment plant is surrounded by homes and parkland*

by a radio based telemetry system.

Critical stations are equipped with stand-by generators in the event of power outages, and the remainder 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. Additionally, there are now five odor control systems to treat air emissions from the sewer system around the City. The Wastewater Division also maintains these units.

The mission of the wastewater division is to protect public health and the water environment of the community and to provide efficient services 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, the source for Mishawaka's drinking water, and increases the customer base, lowering the overall wastewater cost per household.

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.

…a free and renewable source of energy

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.

Going nowhere fast *New high speed turbo aeration blower*

Significant Projects

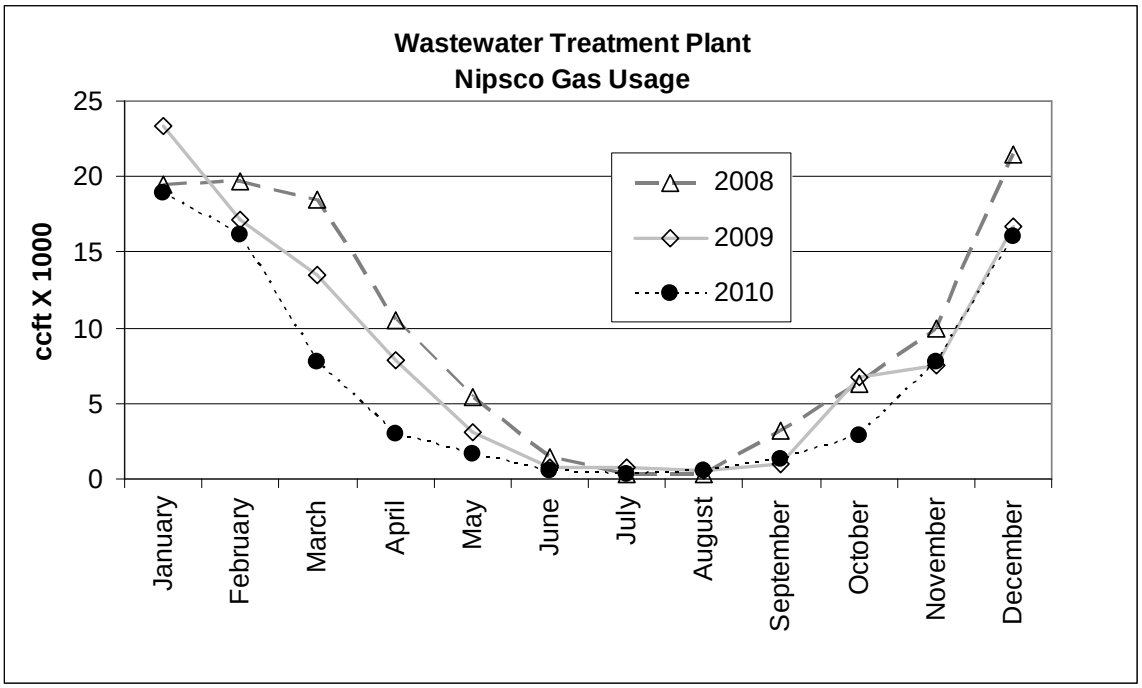
Several process equipment upgrades occurred in 2010 which were significant to the treatment plant. During the year a second gravity belt thickener and belt filter press were installed and brought on-line. This equipment provides redundancy for processes that are mission critical. The gravity belt thickener is used to remove water from waste activated sludge that is entering the anaerobic digestion process. The belt filter press, which is located at the Logan Street Biosolids Facility, is used to dewater biosolids that will be land applied to farm fields. Both of these processes are vital to handling the solids that are generated in the wastewater treatment process and are instrumental in controlling the treatment process.

A state of the art Turbo blower was installed in 2010. The Turbo blower was purchased and installed with a $250,000 ARRA stimulus grant. The turbo technology creates compressed air from a high speed, high efficiency turbo fan that supplies compressed air for the biological treatment of wastewater. This efficient blower qualified for stimulus funding as a "green project" and will save the utility over $35,000 in annual electric costs. It is one of the first of its kind to be installed in Indiana. Finally a screenings washer and compactor unit was installed to process the material captured by the plant's influent screens. Influent screens prevent material such as sticks, rocks, leaves and other debris from entering the plant and causing damage to downstream equipment. The new screenings washer and compactor dries and compresses this debris which is sent to the landfill.

Efficiencies

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. 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 2010 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 over 30 percent, which is significant considering the 2008 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.

Lighting upgrades in 2010 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 than in 1992.

The treatment plant staff continues 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. 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 will be a more energy efficient wastewater plant for Mishawaka's ratepayers. Lessons learned 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 focused on energy use and efficiency. An energy management team was formed that includes representatives from management, maintenance and operations. The team looked at where significant energy use occurs and began tracking 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 focused on 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 collected digitally on computers.

The operation of the treatment plant is accomplished by 7 operators and 1 Chief Operator, Robert Hall who 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 Mike McDonald, Pat Hoffman, Mike DeCocker, Bob Haller, Jim Szulczyk, Johnny Francis, and Tim Wells. 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.

Statistics

…the wastewater plant treated over 3.7 billion gallons

In 2010 the wastewater plant treated over 3.7 billion gallons, averaging 309 million gallons monthly and 10.2 million gallons per day. The treated flow was almost a billion gallons less than in 2009. This was due to less total precipitation in 2010 and sewer separation projects in the Milburn Boulevard area. Separating sewers reduces the amount of rainwater and groundwater that reaches the treatment plant. This reduction in flow lowers the costs associated with pumping and treatment.

In 2010 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 58.8 MGD on May 21st. The maximum daily average flow treated during the year was 19.1 million gallons on July 24th. Treating flow in excess of the design capacity requires skillful operation and a well maintained facility. Pollutants

removed during 2010 included 6.6 million pounds of organic compounds, 79 thousand pounds of phosphorus, and 443 thousand pounds of ammonia nitrogen.

Biosolids, the stabilized solid material resulting from the treatment of wastewater, are land applied on area farm fields. In 2010 over 817 dry 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.

	2005	2006	2007	2008	2009	2010
Average Flow (MGD)	11.91	12.15	11.53	14.23	12.64	10.16
Peak Flow (MGD)	28.2	26.7	36.3	36.1	27.5	58.8
BOD Removed (% removal)	98	97	97	97	98	98
Phosphorus Removed (% removal)	79	77	79	79	78	79
Ammonia Removed (% removal)	80	85	90	96	96	93
Solids Removed (% removal)	97	96	96	96	97	98
Biosolids Produced (metric tons)	969	1137	877	804	826	1011
Electricity Costs ($)	210,274	187,326	262,279	279,215	516,460	345,643
Gas Costs ($)	199,928	152,411	166,992	162,448	140,955	48,277
Total Precipitation (inches)	38.3	47.1	49.1	51.6	44.9	33.7

Combined Sewer Overflows

Although the water quality in the Saint Joseph River is better than at any time in our lifetimes, further improvement is required. During heavy rainstorms, when the capacity of the sewer system and treatment plant is exceeded, combined sewer overflows (CSOs) discharge a mixture of stormwater runoff and wastewater directly to the river without treatment. CSOs prevent basement backups and street flooding. Mishawaka is one of 100 communities in Indiana with combined sewer overflows. There are over 700 CSO communities nationwide.

The reduction of CSO to the river during wet weather is required by federal law and continues to be one of the City's top priorities. Since 1990 Mishawaka has reduced annual CSO volume approximately 86% from 300 million gallons per year to less than 50 million. These significant reductions have been achieved by a combination of treatment plant expansions, sewer separation projects, and sewer system capacity upgrades. Mishawaka has developed a long term plan to address the remaining combined sewer overflows.

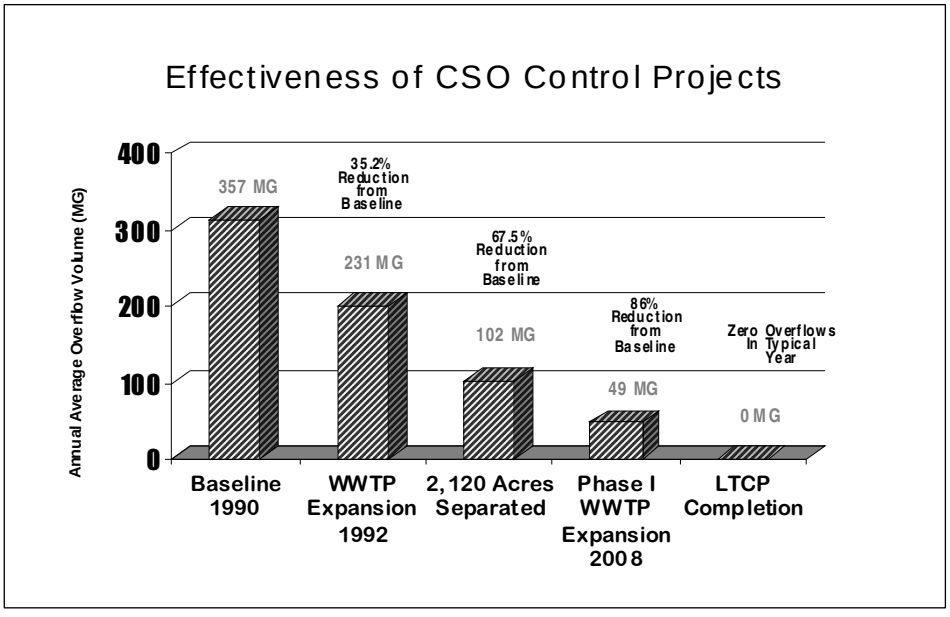
The Clean Water Act requires CSO communities to eliminate the impact of wet weather overflows on water quality. Cities must develop Long Term Control Plans to eliminate or reduce CSO to the maximum extent possible. During 2010 the City continued negotiation with EPA, IDEM, and the Department of Justice over language in the Long Term Control Plan (LTCP) consent decree. The City submitted its final draft in October for review by the agencies. 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.

Funding the LTCP will require periodic rate increases. A 2008 cost of service study recommended adjustments to the City's sewer rate structure to ensure fair allocation of cost among the different user classes. The first rate increase was implemented in 2009 and the second in 2010. A third rate increase occurred in 2011. These rate adjustments will provide revenue to fund approximately $50 million of LTCP improvements.

Final approval of the LTCP from the EPA should occur in 2011. The plan is estimated to cost between $140 and $160 million and the City is requesting a 20 year implementation schedule. Consistent with EPA policy, once the LTCP is approved it will be enforced in a federal consent decree. The decree will require implementation of the Long Term Control Plan or the City will face penalties.

Although Mishawaka's CSO control plan has not been formally approved, the City is proactively addressing the problem. In 2010 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.

In December 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 CSO long term control measures.



Employee Recognition/Awards

Mishawaka enjoys outstanding wastewater treatment service provided by highly dedicated employees. The Wastewater Division was distinguished at the 2010 annual conference of the Indiana Water Environment Association (IWEA) held in Indianapolis in November. Over 500 wastewater professionals gathered for continuing education, to discuss new trends and technologies, and to recognize outstanding contributions and achievements.

Heavy medal *Mishawaka receives seven awards*

The Wastewater Division received seven awards, 4 from the state IWEA and 3 from the national Water Environment Federation (WEF). Assistant Manager Tim Brill and Manager Karl Kopec received the Quarter Century Operator Award from WEF in acknowledgement of twenty five years of service and dedication to the water environment profession. Karl Kopec received the WEF William D. Hatfield Award for outstanding performance and professionalism in the operation of a wastewater treatment facility. Interestingly, in 1957 the first Indiana recipient of the Hatfield Award was Ronald Kronewitter, Mishawaka's first Wastewater Manager. Although the Hatfield award is bestowed upon an individual, it is a reflection of the performance and professionalism of the entire staff.

The Division's laboratory received an IWEA Laboratory Excellence Award for the 9th consecutive year. Mishawaka's wastewater laboratory analyzes approximately 18,000 samples annually. Lab test results are used to verify compliance with state and federal discharge limits and to monitor the treatment process. The Wastewater Division received the large facility Collection Systems Award for innovative solutions for reducing combined sewer overflows (CSOs). For the 9th time and third consecutive year, the division received the large facility Best Annual Report Award. The Wastewater Division has a great story to tell. Finally, plant chemist Jill Norton was inducted into the Loyal Order of the Tumblebug, an award recognizing outstanding effort on behalf of the IWEA. Jill joins past recipients Tim Brill and Karl Kopec as Mishawaka Tumblebugs.

The Mishawaka Wastewater Treatment Plant Expansion was also recognized in 2010 as an outstanding project by the American Council of Engineering Companies. The plant received a Merit Award given to projects that deserve special recognition for engineering excellence that meet the needs of the client and benefits the public welfare.

Challenges Ahead

The City will negotiate the renewal of its National Pollution Discharge Elimination permit (NPDES) in 2011. The treatment plant will see mercury limits for the first time. The new discharge limit will be 1.3 parts per trillion. This is an extremely low limit. A part per trillion is the equivalent of 1 inch in 16 million miles. Wastewater plants are not designed to specifically remove mercury and meeting such a strict limit is not feasible for most large wastewater plants. Even though Mishawaka's plant removes over 99% of mercury that enters the facility, the 1.3 part per trillion limit cannot always be met. The State allows for treatment plants to apply for a variance of the limit if a mercury minimization plan is submitted and instituted. The new NPDES permit may also contain stricter limits on phosphorus and ammonia. 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.

A part per trillion is the equivalent of 1 inch in 16 million miles

Conclusion

The service provided by the Wastewater Division goes largely un-noticed. However, Mishawaka enjoys a wastewater treatment system that has kept pace with needed improvements. The wastewater infrastructure has capacity to support continued growth and economic development. While many communities grapple with aging and inadequate wastewater treatment systems, Mishawaka is distinguished by its commitment to providing safe, reliable and efficient wastewater treatment. Protecting public health and the environment is a duty that the Division's employees accept and embrace.

MISHAWAKA SEWER MAINTENANCE DEPARTMENT

Tom Dolly, Manager

In today's economy, public utilities are under pressure to make the most of their existing facilities while meeting increasing demands for service.

Hi-tech *Sewer Maintenance staff in front of sewer cleaning truck*

In the year 2010, the Sewer Maintenance Department was no different. A well planned, well equipped, and cross-trained group of ten employees, two Vactor/AquaTech cleaning trucks, video inspection equipment, and repair equipment maintains over 200 miles of sanitary sewers of various diameters. The Sewer Department Staff 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 accomplished by a well planned rigorous scheduled maintenance program of the sewer system. The Sewer Department also performs tasks for Electric, Water, Parks, Streets, and the Wastewater Treatment Plant.

The department is responsible for the infrastructure maintenance and rehabilitation of the sanitary sewer system which includes approximately 200 miles of sanitary sewers, all sanitary manholes, storm sewers and related inlets, and catch basins. The Department also conducts inspections

….maintains over 200 miles of sanitary sewers

of new sewer system extensions. Sewer televising, including private sewer laterals to assist homeowners in identifying the source of their problems is an important tool. Citizen inquiry response and assistance is performed to maintain proper function of the sewer system.

Keeping in touch *Melanie Weber takes information from a utility customer*

YouTube *Camera truck operators review sewer inspection video*

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 into a sewer, take videos, still pictures, record data to a computer in the camera truck, and print reports.

The video inspection crew which is comprised of one main Camera Operator, and several cross trained individuals, has given the department precise documentation on which sewers need attention. Depending on data from the video inspections it can be determined if sewers need jetting and vacuuming, dragging for heavy debris, root cutting, herbicide treatment for root control and repair or replacement of broken pipe.

The Cleaning Crew uses two vacuum cleaning trucks operated by 3 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 cleaning lines before televising them, while the other cleans inlets, and catch basins. As a result of preventative maintenance, the Department has been able to minimize sewer surcharges into basements, increase volume of flow to the wastewater treatment plant and decrease combined sewer overflows.

…robotic cameras which can travel up to 1200 feet into a sewer

That's grate *Sewer Maintenance crew cleans stormwater inlet*

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

The sewer utility crews, comprised of all cross-trained employees, perform many jobs for the sewer department. Their jobs range from traffic control for the video inspection or cleaning crew, inlet patrol, lateral locate inspections, new construction inspections, and service request mini-cam inspections.

Over the past year, 191 calls were received from residents during normal working hours and 40 after hours. Department personnel respond to requests to check sewer mains, odors coming from the sewer line, water standing in the street or resident with sewer lateral and problems. Of the 231 calls, 77 residents qualified for the sewer insurance program. These 77 sewer insurance work order calls were taken, set-up and completed by Sewer Maintenance office personnel. These residents had repairs that ranged from a simple second opinion cleaning and 1 year guarantee against tree roots to a more in-depth project such as an excavation and lateral replacement. This program has proven to be very successful in assisting Mishawaka's residents with the high cost of sewer lateral repairs. More of the specifics regarding the sewer insurance program can be found on the City's website.

…very successful in assisting Mishawaka's residents with the high cost of sewer lateral repairs

The department continues to strive to improve its preventative maintenance programs and, through cost-effective measures, maintain the current level of services provided. Through its various programs, the division endeavors to preserve and maintain its major infrastructure investment. Working together

as a team with all departments has proven to be one of the most important keys to success in 2010.

Dependable and affordable hometown utilities

Sometimes world class service can go unnoticed. When a Utilities customer's lights stay on during a storm, clean and safe water comes out of the tap whenever it is needed, and the wastes generated by everyday living disappear down the drain, the services provided by Mishawaka Utilities may be taken for granted. That is not a bad thing. Dependable and affordable home town utilities add to the quality of life in Mishawaka and act as a magnet to attract new growth and development. The Utility employees take great pride in the reliability and quality of services they provide to their community. When things do go wrong, the Utility responds quickly to correct problems. The citizens of Mishawaka deserve and receive world class service with a hometown feel.