



MISSOURI WATER AND WASTEWATER CONFERENCE

SUMMARY

OF

2008

OPERATOR TRAINING REPORT

BY

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MISSOURI WATER AND WASTEWATER CONFERENCE

INDEX

CONTENT	PAGE
The Missouri Water and Wastewater Conference	1
MWWC's Mission	2
Purpose of this Study	2
Training Report	2
Operator Certification	3
History of MWWC Training	3-4
Startup of State-wide Training Program	4
The Process	4-5
Publicity	5
Instructors	5-6
Classes by Date	6
Training Renewal Credits for Certified Operators	6
Registration Fees	6-7
Special Arrangement with Jefferson College	7
Class Sites	7
Section Meeting Technical Programs	7
Annual Technical Program	7
Summary Credit Hours	7
Conclusions	8
Addendum – Webinars	9
Table I - Classes By Date	10-11
Table II – Training Renewal Hours	12-13
Table III – Class Sites	13-14
Table IV – Instructors	14-15
Table V – Section Technical Programs	16
Table VI – Annual Technical Program	16
Table VII – Summary of Credit Hours	17
Biography of Robert S. Miller	17-18

*An unedited version of Mr. Miller's report is available by contacting MWWC's central office



What We Are About

The Missouri Water and Wastewater Conference was established in 1925 to serve the needs of water and wastewater system personnel throughout Missouri by providing a forum for the exchange of ideas through training programs, conferences, and meetings. The 2,100+ member-strong MWWC is organized into six sections representing the East Central, Midwest, Northeast, Northwest, Southeast, and Southwest areas of the state. It is this membership participation and leadership from within that has made the MWWC the largest operator organization in Missouri.

What We Are Doing

The MWWC strives to serve both water and wastewater personnel, from the smallest to the largest operations, by providing training programs, section meetings, and annual conferences that are of interest and importance to everyone. Our goal is to become a much stronger voice in the state, responsive to the needs of small community governments and the operators of their water and wastewater operations. Programs presented around the state are practical, low cost, and high quality and are held at locations convenient for operators who cannot afford to be away from their systems for extended periods. Most programs are one-day long and provide approved renewal training hours needed by all certified water and wastewater operators.

Good Reasons to Get Involved

As is common with most associations, members have the chance through informal conversation to learn about things going on around Missouri. Many problems have been solved over a cup of coffee by listening to the experiences of others. A strong sense of fellowship has developed over the years through Conference activities. MWWC operating costs and membership dues are kept as low as possible by member involvement, working committees, and a large membership that provides the working capital without individual financial hardship. If you are willing to become involved, are interested in continuing education, and want to be a part of an organization dedicated to you and your peers, please complete a membership application. By doing so you would be joining your fellow water and wastewater operators, managers, engineers, consultants, manufacturers' representatives, state officials, and local government representatives in the Missouri Water and Wastewater Conference.

Quality Training for Quality Operators

MWWC's Mission

MWWC's training program has six primary goals:

- 1) To assist its members in improving the operation of water purification plants, wastewater plants and distribution systems for the purpose of promoting the health and well being of the public.
- 2) To bring together individuals whose profession is related to the design, construction and operation of water treatment, water distribution and wastewater facilities.
- 3) To provide operators with technical training related to the operation of equipment, treatment methods and other relevant information necessary to operate and maintain their facilities.
- 4) To protect the health and well being of the public by training water treatment and water distribution operators in methods and techniques that enable them to provide members of the public with clean and safe drinking water.
- 5) To protect the health and well being of the public by training wastewater treatment operators in the proper handling of effluent discharged to the rivers and streams of Missouri.
- 6) To teach operators that one of their overriding responsibilities is to protect the public health by providing clean and safe drinking water and proper handling of wastewater.

PURPOSE OF THIS STUDY

The purpose of this report is to document findings of a study conducted for the 2008 training program of the Missouri Water and Wastewater Conference. The study was conducted to:

- 1) Determine how well the MWWC's training program was doing to meet the training needs of operators.
- 2) Determine how well the training program brought together the parties involved in the water and wastewater industries

TRAINING REPORT

The focus of this study, and thus this report is primarily geared towards MWWC's statewide training program. However, it does include some information relating to section training activities and annual technical programs. The first step in this study was to review the information included in the MWWC 2008 training report including dates, class titles, training sites, names of instructors and names of companies that instructors represent, DNR granted credit renewal hours, course numbers and the number of participants for each class.

Additional copies of this report are available through the MWWC's central office in Jefferson City.

OPERATOR CERTIFICATION

In order to serve as a certified operator, water or wastewater professionals must meet the Department of Natural Resources' requirements for licensing. All of MWWC's training programs are designed to meet DNR's standards for operator's certification renewal credit hours. Four of MWWC's 2008 classes provided more credit hours on the wastewater side than on the water side.

Since the inception of the organization, the conference has been dedicated to providing training to water and wastewater operators in order to improve the operation of water supply and wastewater facilities. Through time the MWWC has adapted to the needs of its members.

HISTORY OF MWWC TRAINING

In the early years the primary source of training that the MWWC provided was through an annual three day meeting. The first of these meetings was held in 1925. MWWC's 29th annual meeting was held in Excelsior Springs on September 27, 28 and 29, 1953. Two hundred and sixty-two operators attended the three day event.

In 1930 the MWWC sponsored a water works short course at the University of Missouri – Columbia. Twenty-four participants attended that event. Subsequent short courses for operators of major water and wastewater facilities were held at the university in the 1930's and 1940's. There were two breakout sessions at these classes: one for first time attendees or new operators, and another for the more advanced. Housing for participants of this class was provided for on the university's campus. Professor Lindon J. Murphy from the university's college of engineering was in charge of the short courses. The final annual water works short course was held at the University of Missouri in Columbia from June 7 – 11th, 1954.

In 1944 the conference initiated a voluntary licensing program for water operators. Only conference members could participate in this program. Dr. Warren A. Kramer, Secretary-Treasurer and senior members of the organization developed, scheduled, executed and graded the written test. The examination consisted of three components: a written test, an oral exam and a laboratory review test. After the exams were complete Dr. Kramer informed those individuals that had taken the exam of their result. Levels of licensures were A, B, C & D with level D being entry level operators leading up to highest level of A. Dr. Kramer issued and kept records of licenses.

In late 1970 the conference terminated the licensing for water operators only, and became part of a joint effort for both water and wastewater operators. The other two sponsoring organizations of this new licensing program were the Missouri Section of the American Waterworks Association and the Water Pollution Control Federation. The board of directors for this program, the Missouri Operator Certification Board, was made up of members from each of the three organizations. MWWC's secretary-treasurer, Robert S. Miller, accepted the responsibility to carry out the routine responsibilities pertaining to the examinations and issuance of licenses.

The short courses and annual technical programs served the purpose for which they were held, however, many small system operators were still not able to get the training they needed. The lack of time and money were the biggest challenges operators and their employers faced in regard to training. Many operators were unable to go to training classes because neither they nor, their employer had the financial means to send them. Others could not be away from their plants in order to attend the short courses or the three day annual meeting.

In 1952 the Conference established six regional sections throughout the state of Missouri. The primary purpose of these sections was to be a delivery mechanism for training to the operators in each given region. The sections were named according to their geographic location in the state: Northwest, Cameron; Northeast, Macon; East Central, Washington; Midwest, Sedalia; Southeast, Poplar Bluff; Southwest, Springfield. Sections were, and still are, governed by volunteer officers including a chairman, vice chairman, secretary, training chairman and a representative to the organization's state board of directors.

The plan was for each regional section to hold a one-day training session in April of each year. The first of these regional meetings was put on by the East Central Section on May 22, 1953. Fifty-seven people registered for that event. Other section meetings held that year were in Mexico, Clinton, Ironton and Cuba.

In addition to hosting their spring training sessions, section volunteers held one day training classes in their regions as time and volunteerism allowed. For some sections this practice continued until the 1990's and beyond. Through time, more demands have been placed on water and wastewater professionals to meet specific requirement mandated by state and federal regulations. As a result, operators are not able to donate as much of their time towards planning for and hosting training classes. Though volunteers from all of the six regional sections still host a spring section meeting, the number of other classes they provide is minimal.

START UP OF STATE-WIDE TRAINING PROGRAM

From its inception, the Missouri Water and Wastewater Conference (formerly the Missouri Water and Sewerage Conference), has provided training to Missouri's water and wastewater professionals. For more than sixty years the primary venue for these training programs was through the organization's six regional sections. The state-wide training program, administered through MWWC's central office, began in earnest in 2000.

THE PROCESS

MWWC's training coordinator Lori Cook, under the direction and supervision of Executive Director Sandi Miller, is responsible for all facets of MWWC's training classes including, but not limited to; arranging for instructors and training sites, working with instructors and site hosts to determine specific training needs of each given audience, working with instructors to put together agendas for classes, applying for operator certification renewal credit with DNR, ordering paper and toner for printing course registration forms, creating course registration forms, coordinating with office staff and professional mailing service to distribute registration fliers, receive and process course registrations, fax registration forms upon request or when initial registration numbers are low, coordinate with instructors to determine what audio visual equipment is needed to teach the class, make arrangements to get needed audio-visual equipment to class, mail or fax a list of registrants, a copy of the DNR roster, evaluation forms and an instruction guide to the class host.

In preparing for each class MWWC's training coordinator makes contact with a potential site host to see if he or she is willing and able to host a class. Hosting a class involves securing a meeting room and providing someone to send a signed roster and other materials as indicated to MWWC's training coordinator once the class is complete.

The initial point of contact for developing a one day training program through the MWWC takes place approximately ten to twelve weeks prior to the training date. Advertisements and fliers for the class are sent out approximately eight weeks prior to the class.

In the initial correspondence about hosting a class, MWWC's training coordinator asks the site host if specific training is needed or desired. If so, the training coordinator attempts to find instructors to provide training on the requested subject matter.

Once it has been determined who will teach the class, MWWC's training coordinator requests biographical information and a course outline from each instructor. She then completes a request for credit renewal hours and submits it to DNR's Operator Certification Unit along with the speaker bios and course outlines. The class outline and other detailed information (See section 640.100 RSMo) is then submitted to DNR for course approval.

Course registration fliers were designed, printed and distributed at least eight weeks prior to the class date in order to allow ample time for potential participants to receive, complete and submit registration forms to MWWC's central office for processing. Class fliers were also posted on MWWC's web page and are mailed to systems and operators in an area encompassing approximately a sixty mile radius of the training site.

Once the signed DNR roster and voucher applications are returned to the central office; the training coordinator creates an invoice and forwards it, along with the signed roster and voucher applications, to DNR for processing and payment. The training coordinator then places a copy of the roster along with other records relating to the class, in MWWC's files.

After each class the training coordinator follows up with the instructors and training site host to thank them for their participation and to ask for their input on how successful the class was for all involved.

PUBLICITY

Registration forms containing details of the class were mailed to individuals and systems within a sixty mile radius of the training site. Information about classes was routinely posted on MWWC's website at www.mwwc.net and was also sent to individuals and companies whose email addresses are on file at MWWC's central office. When publication dates allow, basic information about the classes is posted in MDNR's *Water and Wastewater Digest* and in *MWWC's Mainlines* Newsletter. Registration forms are faxed, e-mailed or mailed upon request or when initial registration numbers are low.

INSTRUCTORS

Most of the instructors were representatives of manufacturers and suppliers of water or wastewater goods and services. The willingness of each instructor to volunteer his or her time and expertise to teach these classes is what makes MWWC's training program a success. The insight and knowledge about the operation, maintenance, design of water and wastewater plants and equipment that each of them have, along with their availability to answer questions and give advice is extremely valuable to operators. Through the training provided by these company reps and others, operators are offered accurate and up-to-date information about all facets of operation. In many cases the result of this training not only protects the public health, but also saves water and wastewater facilities money in the long run as it provides operators with the knowledge to maintain and service the equipment they have.

The MWWC also utilizes professional engineers who are involved in the design and construction of public water and wastewater facilities. Engineers often become mentors of water and wastewater operators teaching them how to operate and maintain the plants that they have designed. This allows for the operators to extend the serviceability and life of their treatment facility while providing the public with quality water.

Most of these instructors volunteer their time and expertise. However on rare occasions, such as if a company representative travels beyond his or her service territory, the MWWC is asked to provide some compensation. Company representatives are required both by DNR and MWWC to keep away from promoting a special brand or type of equipment, supply or service. Instead, their presentations are to be educational in nature rather than being an advertising tool for a specific company.

MWWC's list of instructors also includes several independent instructors that taught specialized subjects such as math, chemistry, CPR, safety and electricity.

MWWC's lead instructor John Betz, taught nine classes at six different locations in the last six months of the year. One hundred seventy-three operators participated in classes lead by Mr. Betz. Several of these programs were geared strictly to operators of very small water systems such as schools, mobile home parks, and resorts.

CLASSES BY DATE (Table I)

Table 1 shows the date, section, location, instructors and instructor affiliation. The basic primary purpose for initiating MWWC's state-wide training program was to provide training to operators that is applicable, accessible and affordable.

TRAINING CREDIT RENEWAL HOURS FOR CERTIFIED OPERATORS (Table II)

All of MWWC's training classes are designed to meeting the standards set by the Missouri Department of Natural Resources for operator training renewal credits. Table III shows the training site and the date of the class. Table III also shows the renewal hours granted by DNR for each of the 47 classes. That includes the renewal hours granted for water treatment operators, distribution system operators, wastewater treatment operators, and concentrated animal feed operation personnel (CAFO) for operators in each class.

REGISTRATION FEES: The usual and customary cost of MWWC's 2008 training courses was \$75.00 for MWWC members and \$115.00 for non-members. This fee was determined by considering the costs involved in putting on classes including, when applicable, instructor fees and expense account reimbursement. It also involved special fees including; administration costs, use of office equipment including but not limited to computers, fax machines, copy machines and printers, the cost of telephones, fax and internet service for communicating with instructors, site hosts, DNR staff, class registrants, and other interested parties.

The cost to participate in MWWC sponsored training events is less for MWWC members than it is for non-members. Fees for most of the training classes were paid municipalities or other employees of water and wastewater operators. A small number of operators paid for their training out of pocket, and the Environmental Protection Agency (EPA) funded grant paid for training classes for water operators that serve communities of 3,300 or fewer via vouchers. The Department of Natural Resources administers this program providing funds for training through a voucher program. Missouri is the only State using the funds for a vouchers program to train operators. The voucher program made it possible for the MWWC to provide training to more operators than otherwise might have been possible.

SPECIAL ARRANGEMENT WITH JEFFERSON COLLEGE: The MWWC and Jefferson College in Hillsboro worked together to sponsor classes. The college established a fee, publicized and processed registrations for these classes. The MWWC provided the instructor, established the technical program and applied for certification renewal credit. At the conclusion of the class, Jefferson College retained 30% and MWWC received 70% of the net.

CLASS SITES (Table III)

In Table III the information is sorted alphabetically by class site. It also shows the date, the number of attendees and the method of payment used.

SECTION MEETING TECHNICAL PROGRAMS (Table IV)

Each of MWWC's six regional sections holds one-day technical programs in the spring of each year. Table VI shows the location and attendance at each of these events. Nine hundred seventy-nine operators attended the 2008 section meetings. Operators received certification renewal credits at the rate of 34 for water treatment operators, 30 for water distribution operators, 30 for wastewater operators and 11.5 for individuals holding a certification in Concentrated Animal Feed Operations (CAFO). These annual events are planned and carried out by volunteers from each of the regional sections.

ANNUAL TECHNICAL PROGRAM (Table V)

MWWC's annual technical program is held in the fall of each year. This event is the primary attraction at the organizations annual meeting. Other events at the annual meeting include a vendor show, business meeting, board meeting and a number of social events. Two hundred thirty-five water or wastewater personnel participated in the 2008 three-day event. Operators were awarded certification renewal credit from the Missouri Department of Natural Resources as follows: water treatment operators 13, water distribution operators N/A, wastewater operators 12.5 and 2.5 for CAFO operators. Reduced renewal hours were available for a special Wednesday only registration.

SUMMARY CREDIT HOURS (Table VI)

The information here provides a summary of the DNR certification renewal credit hours accredited to operators in conjunction with MWWC sponsored events in the year 2008.

The total number of registrations for the MWWC state-wide sponsored training program was 2,302. DNR credit renewal totals for these classes were 316 for water treatment operators, 311 for distribution operators, 2,215 for wastewater operators and 101 for Controlled Animal Feed Operators. These renewal credit hours were awarded for forty-seven MWWC sponsored training events that took place at thirty-nine different locations throughout Missouri. These numbers do not include renewal credit hours for MWWC's six regional section meetings or the annual fall technical program.

CONCLUSIONS

The goal of the MWWC's training program was to provide at least one class per month in each of the six geographic regions in the state for a total of seventy-two classes. Unfortunately, due to administrative changes within the organization, the projected goal was not met in 2008.

The actual number of classes completed was forty-seven. These events were held at thirty-nine locations. Consequently, the MWWC and particularly its training program both rely heavily on volunteer instructors, both individuals and company representatives. Because of other demands on their time and the current overall compromised economy, there is no way of knowing the availability of instructors or assurance of their support from year-to-year. Another concern related to the continuation of MWWC's training program is the eventual discontinuation of the EPA funded and DNR managed voucher program for water operators serving communities of 3,300 people or fewer.

The loss of either volunteer instructors or the voucher program would limit the ability of the MWWC to continue providing training. At best, training would continue at a level far below the current rate and ultimately could result in the discontinuation of the training program. The loss of this program would be a great detriment to the water professionals of Missouri who would have a great need for training both for professional development and to meet the continuing education requirements of the state of Missouri for certified operators.

MWWC's training coordinator, Lori J. Cook, did an excellent job in obtaining instructors, developing programs, communicating with DNR staff, and carrying out the many logistical issues involved in putting together, carrying out, and following up after training classes. Even so, there is only so much that can be done if volunteer instructors are unable to participate, funding is not available, or if other unforeseen situations arise. As long as volunteerism remains the same or increases and/or the voucher program continues and everything remains constant in regards to office administration, the MWWC's training program should be able to continue to provide training equal to or greater than it did in 2008.

ADDENDUM

WEBINARS --- THE FUTURE OF MWWC'S TRAINING HAS BEGUN

As of the date that this report was finalized MWWC's training program continues to be the leader in initiating new and innovative ways of delivering operator training.

On Thursday March 11, 2010 the MWWC held its first operator training webinar. A live class was held at the host site, MWWC's training center at 2215-G Missouri Blvd. in Jefferson City. The class was web cast to three remote sites: St. Louis Water Division's Chain of Rocks Plant, St. Louis Water Division's Howard Bend Treatment Plant and the Alliance Water Resources Plant in Cape Girardeau. MWWC's lead instructor John Betz taught the course entitled, "Operator Responsibilities & Water Quality." Volunteer proctors were available at each of the satellite sites to host the class. MWWC's technical specialist Andre' Davis was in charge of the technological aspect of the webinars including providing training and assistance to instructor John Betz and satellite site hosts Billy Pecord, Alliance Water Resources in Cape Girardeau and St. Louis Water Division's Don Rea. Attendance at these classes was Jefferson City (host site) 14, St. Louis Howard Bend 11, St. Louis Chain of Rocks 16 and 12 at the Alliance Water Resource plant in Cape Girardeau 12. The total webinar attendance for all sites was 53.

A second webinar is scheduled to be held on June 29, 2010. Once again, a live class will be held at MWWC's training center in Jefferson City and will be web cast to various sites throughout the state of Missouri. Some of the potential satellite sites for the June 29th webinars are: St. Joseph, Cape Girardeau, Boonville, Lebanon and Monroe City. MWWC's training coordinator Lori Cook is working with lead trainer, John Betz, to put together the agenda for this class.

Like all of its' training classes, MWWC's sponsored webinars are designed and developed to meet the Missouri Department of Natural Resources' requirements for operator certification renewal credits.

---Sandi Miller, Executive Director

Table I (Classes by Date)
Missouri Water and Wastewater Conference

Date	Section	Location	Instructors	Instructor's Affiliation
15-Jan	SW	Bolivar	Tom Stechmann	Utility Service Company
			Jim Grimes	Metrotech Corporation
22-Jan	EC	Sullivan	Roger Ringhausen	Paid Instructor, St. Charles
5-Feb	NW	Gallatin	Garland Sigmon	Alliance Pump & Mechanical Services
6-Feb	EC	Hillsboro	Roger Ringhausen	Paid Instructor, St. Charles
20-Feb	NW	Tarkio	Doug Brune	EPA Region VII, Kansas City
			Tom Stechmann	Utility Service Company
26-Feb	MW	Fulton	Gary Edwards	Missouri Electric Motors & Controls
			Dave Axton	Water Resource Management
			Mike Morris	R.E. Pedrotti Company
26-Feb	SE	Perryville	Gary DeWitt	Flynn Drilling Company
4-Mar	NE	Bowling Green	Marion Traynor	Alliance Water Resources
			Steve McDowell	Hach Chemical Company
12-Mar	SE	West Plains	David Miguel	Underground Safety & Supply Company
12-Mar	NE	Moberly	Keith Phipps	Moberly Public Works Director
2-Apr	EC	Hillsboro	Dave Axton	Water Resource Management
			Doug Brune	EPA Region VII, Kansas City
			Paul Brotcke	Brotcke Well & Pump
8-Apr	SE	Campbell	Everett Burge	Layne Arkansas
			Brian Lang	J.M. Eagle Company
			William Dexheimer	Missouri One Call Systems Inc.
9-Apr	SW	Branson	Doug Brune	EPA Region VII, Kansas City
			Tom Stechmann	Utility Service Company
29-Apr	NW	Clinton	Garland Sigmon	Alliance Pump & Mechanical Services
13-May	NE	Milan	Mike Morris	R.E. Pedrotti Company
			Eric Stechmann	Utility Service Company
21-May	EC	St Louis	Donald W. Rea, P.E.	St. Louis Senior Water Production Eng.
28-May	SW	Lebanon	Mark Mayer	Enviro-Line Company
			Gary Moxley	R.E. Pedrotti Company
			Darrell Buerky	TNEMEC
24-Jun	SW	Lamar	Garland Sigmon	Alliance Pump & Mechanical Services
25-Jun	MW	Jefferson City	David Miguel	Underground Safety & Supply Company
29-Jun	NE	Chillicothe	Darrell Buerky	TNEMEC
			David Miguel	G. W. Van Kepple
			Tom Stechmann	Utility Service Company
15-Jul	MW	Rolla	Brian Lang	J.M. Eagle Company
			Gary Edwards	Missouri Electric Motors & Controls
			Gary DeWitt & Art Lewis	Flynn Drilling Company
			Roy Keitel	Ford Meter Box
22-Jul	SE	Dexter	Stacie Coke	DPC Enterprises
			Steve McDowell	Hach Chemical Company
6-Aug	EC	Hillsboro	Mark Price	Electric Controls Company
6-Aug	MW	Warrenton	John E. Betz	MO Water and Wastewater Conference
12-Aug	SW	Carthage	Tom Stechmann	Utility Service Company
			Gary Moxley	R.E. Pedrotti Company
20-Aug	SW	Marshfield	Kendall Stephens	Paid Instructor
9-Sep	NW	Butler	Tom Stechmann	Utility Service Company
			Jim Grimes	Rycom Instruments
			Darrell Buerky	TNEMEC

9-Sep	MW	Boonville	John E. Betz	MO Water And Wastewater Conference
18-Sep	SW	Springfield	John E. Betz	MO Water And Wastewater Conference
1-Oct	EC	Hillsboro	John E. Betz	MO Water And Wastewater Conference
21-Oct	NE	Macon	Gary L. Cunningham, P.E	Shafer, Kline & Warren Inc.
			Dennis E. Stith P.E.	Shafer, Kline & Warren Inc.
			Rex Heap, P.E.	Shafer, Kline & Warren Inc.
			Jeff Corbin	Macon Municipal Utilities
21-Oct	MW	Warrensburg	John E. Betz	MO Water And Wastewater Conference
23-Oct	MW	Jefferson City	Herbert G. Calison, M.A.	Mainstream, Inc.
23-Oct	NW	Smithville	Bob Dunlevy	EPA Region VII, Kansas City
			Tom Stechmann	Utility Service Company
6-Nov	NE	Vandalia	John E. Betz	MO Water And Wastewater Conference
13-Nov	SW	Nevada	David Miguel	Under Ground Safety & Supply Company
13-Nov	MW	Jefferson City	John E. Betz	MO Water And Wastewater Conference
13-Nov	EC	O'Fallon	Roger Ringhausen	Paid Instructor, St. Charles
16-Nov	SE	Farmington	Mike Smith	Eco Solutions
			James Bohn	Walden Associated Technologies Inc
			William E. Dexheimer	Missouri One Call Systems Inc
			Brian Lang	J.M. Eagle Company
			Mike Morris	R.E. Pedrotti Company
2-Dec	SW	Ozark	Roy Keitel	Ford Meter Box
			Rob White	Engineered Systems Inc
			Gary Moxley	R.E. Pedrotti Company
3-Dec	EC	Hillsboro	John E. Betz	MO Water And Wastewater Conference
9-Dec	NE	Independence	Phil Webster	Alliance Water Resources

**Table II (Training Credit Renewal Hours for Certified Operators)
Missouri Water and Wastewater Conference**

Date	Location	Class	# Attending	Water Treatment Renewal Hours	Distribution Renewal Hours	Wastewater Renewal Hours	CAFO* Renewal Hours
15-Jan	Bolivar	Maintaining Water Quality & Theory of Locating	20	6.5	6.5	2.5	0.0
22-Jan	Sullivan	Water Treatment & Math Refresher	18	6.5	6.5	5.5	3.5
5-Feb	Gallatin	Basic Pumps, Motors & Wells	23	7	7	6	5
6-Feb	Hillsboro	Math skills for Water & Wastewater Operators	43	5.5	5.5	5	0
20-Feb	Tarkio	Towers & Regs & Regs	12	6.5	5.5	0	0
26-Feb	Fulton	Instrumentation and Pump Controls	47	4	4	6.5	2.5
26-Feb	Perryville	Operation & Maintenance of Pumping Systems	34	6.5	6.5	6.5	6.5
4-Mar	Bowling Green	Laboratory Procedures	23	6.5	4	4	4
12-Mar	West Plains	Trench and Confined Space Safety	37	6.5	6.5	6.5	6.5
12-Mar	Moberly	Confined Space Entry	47	6.5	6.5	6.5	6.5
2-Apr	Hillsboro	Water Data management, Pump & Regs	10	6.5	5.5	0	0
3-Apr	Cape Girardeau		40	5.5	5.5	5.5	0
8-Apr	Campbell	Wells, Pumps, PVC Pipe, Hoist Safety & Dig Rite	31	6.5	6.5	4.5	0
9-Apr	Branson	Towers & Regs & Regs	22	6.5	5.5	0	0
29-Apr	Clinton	Basic Pumps, Motors & Wells	22	7	7	6	5
13-May	Milan	Towers Operation & Maintenance and Water / Wastewater Controls & Calibration	17	6.5	6.5	3	0
21-May	St Louis	Development of Drinking Water Regulations	30	6	5.5	1	0
28-May	Lebanon	UV Disinfection for Water / Wastewater & Scada Operations	17	4.5	4.5	6.5	2.5
24-Jun	Lamar	Basic Pumps, Motors, & Wells	18	7	7	6	5
25-Jun	Jefferson City	Trench and Confined Space Safety	19	6.5	6.5	6.5	6.5
15-Jul	Rolla	Pipes, Pumps, Motors Wells & Waterworks Terminology	16	5	6.5	4	0
22-Jul	Dexter	Chlorine Safety, Monitoring Chlorine & Other Stuff	22	6.5	6.5	4.5	3
29-Jul	Chillicothe	Coatings, Towers & Traffic Control	23	6.5	6.5	3.5	0
6-Aug	Hillsboro	Basic Electricity	42	6.5	6.5	6.5	6.5
6-Aug	Warrenton	Disinfection/ Water sampling for W & WW Operators	31	6.5	6.5	5	0
12-Aug	Carthage	Electronic Controls and Water Tower	14	6.5	6.5	2.5	1
20-Aug	Marshfield	Basic Electricity and Controls	29	7.5	7.5	7.5	6.5
18-Sep	Springfield	Water Quality from Source Through System	35	6.5	6.5	0	0
23-Sep	Butler	Coatings, Towers, Tanks & Locating	10	6.5	6.5	2.5	0
23-Sep	Boonville	Disinfection, Distribution & Trihalomethanes	22	6.5	5	3.5	0
1-Oct	Hillsboro	Math for Water & Wastewater Operators	21	6.5	6.5	5.5	5.5
21-Oct	Macon	Water Intake to Outfall	10	6	2.5	2	0
21-Oct	Warrensburg	Wellhead Protection, Groundwater Rule	7	5	6.5	0	0
23-Oct	Jefferson City	Grant writing Course	18				
23-Oct	Smithville	CUPPS & Tanks	12	6.5	6.5	3.5	0
6-Nov	Vandalia	Water Regs. & Maintaining Your Distribution System	19	5	6.5	0	0

6-Nov	Farmington	Collection System Work Shop	11	2.5	2.5	6.5	0
13-Nov	Nevada	Trench Safety & Traffic Control	15	6.5	6.5	6.5	3
13-Nov	Jefferson City	Math for Water & Wastewater Operators	11	6.5	6.5	5	4
13-Nov	O'Fallon	Math Skills for Water & Wastewater	15	6	6	6	6
2-Dec	Ozark	Water Terminology, Valves, Meters, & Pump Controls	22	5	6.5	1.5	0
3-Dec	Hillsboro	Quality Water: Source to System	27	5	6.5	0	0
9-Dec	Independence	Activated Sludge	35	0	0	6.5	0
	Total		997	240.5	246	170.5	89
		*Concentrated Animal Feeding Operations					

TABLE III (Class Sites)

Missouri Water And Wastewater Conference

Date	Location	# Attending	Voucher	Employer/Self	Complementary
8-Jan	Poplar Bluff	28	0	20	8
15-Jan	Bolivar	20	4	15	1
22-Jan	Sullivan	18	4	13	1
5-Feb	Gallatin	23	13	10	0
6-Feb	Hillsboro	43	7	36	0
20-Feb	Tarkio	12	10	1	1
26-Feb	Fulton	47	0	44	3
26-Feb	Perryville	34	8	24	2
4-Mar	Bowling Green	23	12	11	0
12-Mar	West Plains	37	23	10	4
12-Mar	Moberly	47	14	15	18
2-Apr	Hillsboro	10	1	9	0
3-Apr	Cape Girardeau	40	1	36	3
8-Apr	Campbell	31	26	4	1
9-Apr	Branson	22	21	0	1
29-Apr	Clinton	22	11	10	1
13-May	Milan	17	13	4	0
21-May	St. Louis	30	2	6	22
28-May	Lebanon	17	0	17	0
18-Jun	Farmington	25	1	9	15
24-Jun	Lamar	18	9	8	1
25-Jun	Jefferson City	19	4	15	0
29-Jun	Chillicothe	23	9	13	1
15-Jul	Rolla	16	10	4	2
22-Jul	Dexter	22	12	9	1
6-Aug	Hillsboro	42	2	40	0

6-Aug	Warrenton	31	10	20	1
12-Aug	Carthage	14	5	6	3
20-Aug	Marshfield	29	10	18	1
9-Sep	Butler	10	4	4	2
9-Sep	Boonville	22	8	13	1
18-Sep	Springfield	35	27	8	0
29-Sep	Boonville	19	8	10	1
24-Sep	Cape Girardeau	18	1	0	17
1-Oct	Hillsboro	21	8	12	1
21-Oct	Macon	10	2	3	5
21-Oct	Warrensburg	7	3	3	1
23-Oct	Smithville	12	3	8	1
6-Nov	Vandalia	19	12	5	2
6-Nov	Farmington	11	0	7	4
13-Nov	Nevada	15	1	12	2
13-Nov	Jefferson City	11	9	0	2
13-Nov	O'Fallon	15	6	8	1
2-Dec	Ozark	22	16	5	1
3-Dec	Hillsboro	27	26	0	1
9-Dec	Independence	35	0	33	2
	Total	1069	376	548	145

Table IV (Instructors)

Missouri Water And Wastewater Conference

Instructors	Instructor Affiliation	Number of Classes Taught
Atkinson, Doug	Square D	2
Axton, Dave	Water Resource Management	2
Baylor, Jim	Cape Girardeau WW Plant Chief Operator	1
Betz, John E.	MWWC Lead Instructor Columbia	8
Bohn, James	Walden Associated Technologies Inc	1
Brotcke, Paul	Brotcke Well & Pump	1
Brune, Doug	EPA	3
Buerky, Darrell	TNEMEC	3
Burge, Everett	Layne Arkansas	1
Calison, Herbert G., M.A.	Mainstream, Inc	1
Charles, Lisa	Bradley Labeling	2
Coke, Stacie	DPC Enterprises	1
Corbin, Jeff	Macon - Specialist Water & Wastewater	1
Criden, Mike	Appleton City Of	2
Cunningham, Gary L., P.E.	Shafer, Kline& Warren Inc	1

Davis, Gerald	Square D	2
Dewitt, Gary	Flynn Drilling Company	2
Dexheimer, William E.	Missouri One Call Systems, Inc	2
Dunlevy, Bob	EPA	1
Edwards, Gary	Missouri Electric Motors And Control Systems	2
Garamella, Andy	Leviton Industries	2
Grimes, Jim	Metrotech Corporation	2
Hamilton, Tom	Brenntag Chemical Company	1
Heap, Rex P.E.	Shafer, Kline & Warren Inc.	1
Keitel, Roy	Ford Meter Box	2
Kincaid, Lee	Brenntag Chemical Company	1
Lang, Brian	J.M. Eagle Company	2
Mayer, Mark	Enviro-Line Company	1
McDowell, Steve	Hach Chemical Company	2
Meglio, Mike	3M	2
Miguel, David	Under Ground Safety & Supply Company	3
Morris, Mike	R.E. Pedrotti Company	2
Moxley, Gary	R.E. Pedrotti Company	2
Phipps, Keith	City of Moberly	1
Presson, James	Brenntag Chemical Company	1
Price, Mark	Electric Controls Company	1
Rea, Donald W., P.E.	St Louis Water Division	1
Ringhausen, Roger	Paid Instructor, St. Charles	3
Sigmon, Garland	Alliance Pump & Mechanical Services	3
Smith, Mike	Eco Solutions	1
Sperring, Tom	3M	2
Stechmann, Eric	Utility Service Company	1
Stechmann, Tom	Utility Service Company	7
Stephens, Kendall	Paid Instructor	1
Stith, Dennis E., P.E.	Shafer, Kline & Warren Inc.	1
Traynor, Marion	Alliance Water Resources	1
Van Keppel, G.W., M.A.	Underground Safety & Supply Company	1
Webster, Phil	Alliance Water Resources	1
White, Rob	Engineered Systems Inc.	1

**Table IV (Section Technical Programs)
Missouri Water And Wastewater Conference**

Location By Section	Attendance By Section	Water Renewal Hours	Distribution System Renewal	Wastewater Renewal Hours	CAFO Renewal Hours
NW - Section					
St. Joseph	156	5.5	5.5	5.5	4
NE - Section					
Moberly	89	5	5	5	4
EC Section					
St Peters	121	5	4	3	1.5
SW Section					
Cape Girardeau	123	4	4	4	0
MW Section					
Columbia	190	6.5	5.5	6.5	2
SW Section					
Monett	300	6	6	6	0
Total Credit Hours		34	30	30	11.5
Attendance	979				

**Table V (Annual Technical Program)
Missouri Water And Wastewater Conference**

Day	Attendance	Water Renewal Hours	Distribution Renewal Hours	Wastewater Renewal Hours	CAFO Renewal Hours
Tuesday		3	3	2.5	1
Wednesday		7	7	7	1.5
Thursday		2	3	3	0.5
Total For 3 Days	235	12	13	12.5	3

Table VI (Summary of Credit Hours)
Missouri Water And Wastewater Conference

	Number Attending	Water Renewal Credits	Distribution Renewal Credits	Wastewater Renewal Credits	CAFO Renewal Credits
44 Classes Held In 38 Cities	997	254.5	251	175.5	89
Section Annual Technical Sessions In 6 Cities	979	32	30	29	11.5
Annual Technical Session	235	12	13	12.5	3
Totals	2211	298.5	294	217	103.5

ROBERT S MILLER

MWWC Board Member Emeritus, Robert S. Miller, served as the Executive Secretary of the Missouri Water and Wastewater Conference from 1969 until his retirement in 2000.

Mr. Miller was born and raised in Columbia, MO and attended Columbia's public schools. He served in the United States Army's 20th Armored Division in the European Theater of Operations. After World War II, Miller returned to Columbia, where he earned a Bachelor of Science degree in Civil Engineering from the University of Missouri. After graduation, Mr. Miller lived in Washington, MO where he served as a district engineer for the Missouri Division of Health.

In 1953, Robert Miller moved to Minnesota where he earned a Masters of Public Health Degree from the University of Minnesota.

In 1969 Robert Miller was the director of the Missouri Division of Health's Bureau of Environmental Engineering. Also in 1969, Miller volunteered to serve as Secretary- Treasurer of both the Missouri Water and Sewerage Conference (now the Missouri Water and Wastewater Conference) and the Missouri Operator's Certification Board.

In 1974 Miller began working as an environmental program director for the Missouri Department of Natural Resources. As such, he was responsible for the department's public water supply program. In 1983 Miller retired from his position as the deputy director of the Missouri Natural Resource's water branch. Miller continued to the secretary- treasurer of the Missouri Water and Wastewater Conference until his retirement. Much of Mr. Miller's service to the MWWC was as a volunteer.

Mr. Miller is a former member of the United States Department of Health, Education, and Welfare Public Health Service Reserve Corps. He received numerous honors and awards including the American Water Works Association's George Warren Fuller Award and the Missouri Society of Professional Engineer's 1971 Missouri Engineering Award. Miller is a member of the University of Missouri's Civil Engineering Academy of Distinguished Alumni.

Miller served on the Great Lakes-Upper Mississippi River Board of State Sanitary Engineers that developed the recommended (10 State) standards for water works. Miller was a member of the Conference of State Sanitary Engineers Liaison Group that advised the United States Environmental Protection Agency on the implementation of the Safe Drinking Water Act. Miller was also a member of the Council of Public Health Consultants of the National Sanitation Foundation in Ann Arbor, MI. Miller is a life member of the following organizations: the National Society of Professional Engineers, the Missouri Society of Professional Engineers, the American Water Works Association and the Missouri Water and Wastewater Conference. Mr. Miller has authored countless technical articles in various publications including several national magazines.

Miller and his wife, Grace, live in Jefferson City, MO. They are parents of two grown children, Sandra S. Miller; Diamond Bar, CA and Richard S. Miller; Jefferson City, MO. Miller's daughter-in-law, Sandra S. (Sandi) Miller is the current executive director of the Missouri Water and Wastewater Conference. Bob and Grace Miller also have three grandchildren and four great grandchildren.

