COMMONWEALTH OF KENTUCKY

BEFORE THE PUBLIC SERVICE COMMISSION

RECEIVED
OCT 1 1 2006
PUBLIC SERVICE COMMISSION

In the Matter of:

APPLICATION OF NORTHERN KENTUCKY WATER DISTRICT FOR ACCREDITATION AND APPROVAL OF WATER COMMISSIONER TRAINING	))))	CASE NO. 2006-00 442

FILED
OCT 1 1 2006
PUBLIC SERVICE COMMISSION

APPLICATION FOR APPROVAL AND ACCREDITATION OF WATER COMMISSIONER TRAINING

Northern Kentucky Water District (NKWD), by counsel, petitions the Commission for an order approving and accrediting training for its water commissioners as provided by KRS 74.020(6) and (7). The following information is filed in accordance with the Commission's regulations:

1. NKWD'S office address is 2835 Crescent Spring Rd., Erlanger, KY 41018-0640. Its principal officers are listed in its current Annual Report on page 6, which is filed with the Commission as are its prior years Reports;

2. NKWD is a non-profit water district organized under Chapter 74 and has no separate articles of incorporation.

3. NKWD serves retail customers in Kenton and Campbell Counties and sells water at wholesale to non-affiliated water distribution systems in Pendleton County.

4. NKWD has six commissioners, who have over the course of this calendar year participated in a number of training sessions which NKWD believes conform to the requirements of 807 KAR 5:070.

5. In order for the commissioners to receive credit for this training, it is necessary to obtain approval from the Commission for the training sessions.

6. In conformity to 807 KAR 5:070 (1) and (2), five copies of the training manuals are being submitted for review. The manuals contain the following information:

a. The name and address of the applicant

b. The name and sponsor of the program and the subject of the program

c. A summary of the content of the program

d. The number of credit hours requested for each program

e. The name and qualifications of each instructor

f. a copy of the written materials provided

g. The names of any certifying organizations

7. NKWD asserts that the programs all relate to the areas of instruction for which approval shall be granted as set forth in 807 KAR 5.070(2).

8. NKWD seeks approval of these credit hours as soon as possible so that if the training hours are not approved, the district's commissioners can attend other approved training sessions in October.

For these reasons, NKWD requests an order approving the credit hours of training for each of the programs offered to its water commissioners.

Submitted by:

John N. Hughes
124 West Todd
Frankfort, KY 40601
Attorney for Northern Kentucky
Water District

Northern Kentucky Water District

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OCT 1 1 2006
PUBLIC SERVICE COMMISSION

Commissioner's Training 2006

Tab	Topic
A	Regulatory Update Part I
B	Electricity
C	Plant Flow & Redundancy
D	Regulatory Update Part II
E	Bond Issues & Process to Issue Bonds
F	Emergency Response Plan
G	Fire Hydrant Operations & Maintenence

Item One:

Northern Kentucky Water District
2835 Crescent Springs Road
Erlanger, Kentucky 41018

Item Two:

Name: Regulatory Update Part I

Sponsor: Northern Kentucky Water District

Subject Matter: Status and update on new water quality mandates and new regulations and time frame.

Item Three:

The purpose of this training session is to advise the Board of Commissioners on new regulations and the time of the required compliance. The program will cover such items as Cryptosporidium, ecoli, turbidity, and new levels required. Also to be covered is the topic of Disinfection byproducts.

Item Four:

One Credit Hour – Sign in sheet is attached.

Northern Kentucky Water District

Event # 4063

Date: 2/16/06

PSC Continuing Education Credits

Course Title : Regulatory Update

Course Instructor : Pari Jostyn

Course Location : Aqua Drive, Cold Spring, KY 41076

Print Name	Signature	Hours Earned
Joseph Koester		1
Drew Collins		1
Fred Macke Jr		1
Frank L. Jackson		1
DOUGLAS C. WAGNER		1

My signature below verifies the above named persons attended today's training.

Sponsor Name: _____ Date : 2/17/06

Item Five:

Ms. Bari Joslyn, M.E.S

Bio of the presenter attached

Bari Joslyn is the Vice President of Water Quality and Production at the Northern Kentucky Water District. She has a Bachelor's Degree in Biology from Northern Kentucky University and a Master's Degree in Environmental Science from the University of Cincinnati.

Bari has a Class IV water treatment plant operator's license and a Class IV distribution license from the Kentucky Department of Natural Resources.

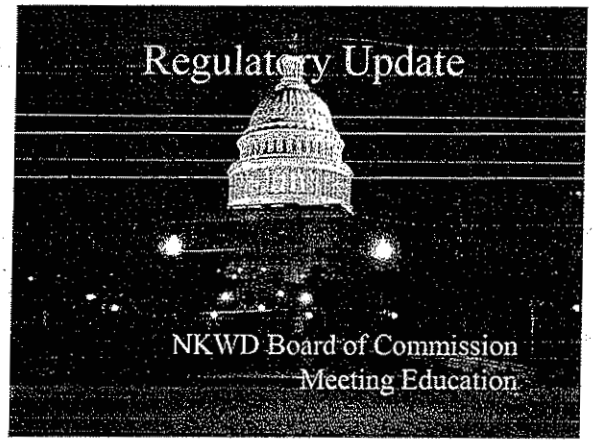
Bari is a Past Chair of the KY-TN Section of AWWA and is currently the KY-TN Director. She is active in the Covington-Kenton County Kiwanis Club, serves on the Board of Trustees for the St. Elizabeth Medical Center and serves as Chair of the Northern Kentucky Mental Health and Mental Retardation Board.

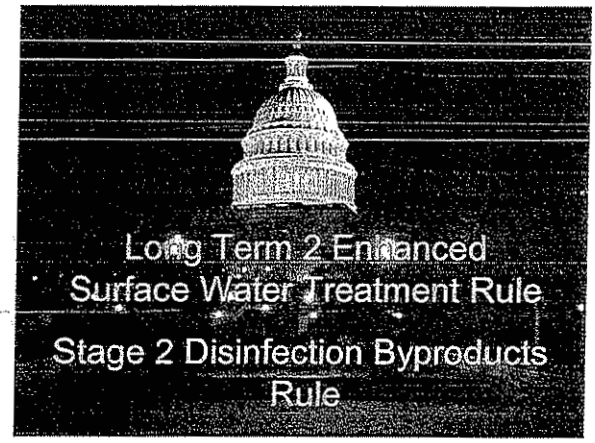
Bari has been with the Northern Kentucky Water District since 1978.

Item Six:

Copy of Materials are attached

Continuing Ed Thru





Current Status

- The LT2 was published in the Federal Register on January 5, 2006
- The Final Rule is effective on March 6, 2006
- NKWD must be in compliance by March 6, 2012

Purpose

- Supplements existing regulations by focusing on *Cryptosporidium* in filtered systems with high source water occurrence
- Maintains microbial protection while risks from disinfection byproducts are addressed

New Data on *Cryptosporidium*

- High levels in some filtered systems
- Infectivity greater than previously thought
  - 89,000-1,459,000 cases per year
  - 20-314 deaths per year
- Effectiveness of UV light and ozone better than thought

Key Requirements

- Source Water Monitoring
  - Crypto, e.coli, turbidity for 2 years
- Treatment Bins
  - Each system assigned to a "bin" based on monitoring results
- Microbial Toolbox
  - Treatment based on requirements for each "bin", choosing from a set of options in the "Toolbox"
- Disinfection Profiling and Benchmarking

Bin Classification and Treatment

Bin Number	*Cryptosporidium* Concentration (in oocysts/L)	Additional Treatment Beyond Current Requirements
1	*Crypto* < 0.075	No additional treatment
2	0.075 to <1.0	1.0 log
3	1.0 to <3.0	2.0 log
4	3.0 or more	2.5 log

Toolbox Options

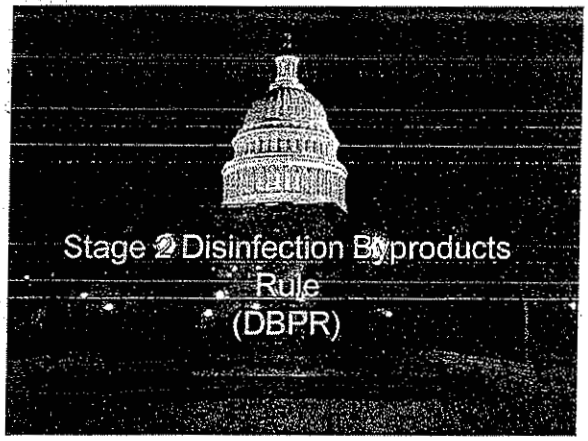
Option	Log Credit	Criteria
Bag filters	1.0	Demonstrate 2 log removal efficiency in challenge test
Cartridge filters	2.0	Demonstrate 3 log removal efficiency in challenge test
Membrane filtration	0.5-6.5	The lower of the removal efficiency demonstrated in challenge test of efficiency verified in direct integrity test

Toolbox Options (cont)

Option	Log Credit	Criteria
Chlorine dioxide	0.5-3.0	Must meet CT table values for desired credit
Ozone	0.5-3.0	Must meet CT table values for desired credit
UV-light	0.5-3.0	Must meet operating conditions for desired credit as established by validation testing

Costs of the Rule

- The average annualized present value cost of the LT2 are estimated at a range of $92 to $133 Million



Stage 2 Disinfection Byproducts Rule (DBPR)

Current Status

- The DBPR was published in the Federal Register on January 4, 2006
- The IDSE monitoring plan is due October 1, 2006
- Submit IDSE Report January 1, 2009
- NKWD must be in compliance by March, 2012
  - IDSE: Initial Distribution System Evaluation - maximum holding sites

MCLs for TTHM and HAA5

Compliance Begins	MCL concentrations	Compliance Calculations	Monitoring Locations
6 years after rule promulgation - - must be in compliance with DBPR by 2012	80 micrograms/L TTHM 60 micrograms/L HAA5	LRAA	Stage 2B sites, based on results of IDSE

Consecutive Systems

- Consecutive systems are an issue in the DBPR
  - DBPs can increase in the distribution system
  - Schedule determined by the largest system in the combined distribution system
  - Monitoring and MCL violations are attributed to the PWS where the violation occurred

Costs of the Rule / Benefits

- The rule applies to 75,000 systems
- The average cost of the rule is $79 million annually
- Projected that the rule will prevent approximately 280 bladder cancer cases per year

Timeline

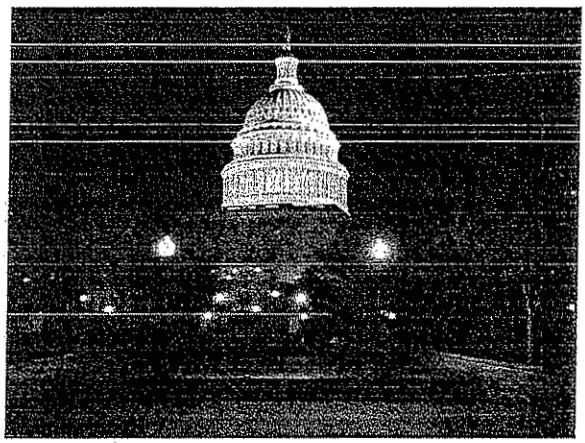
NKWD Compliance

LT2

DBPR

BUDGET (million $)

Project	2006	2007	2008	2009	2010	2011	2012	Total
TMTP UV	0.5	2.0						2.5
FTTP GAC		1.0	1.0	3.0	5.0	12.0		22.0
FTTP Actifio		0.5	1.5	6.0				8.0
FTTP UV				1.0	4.0			5.0
Total	0.5	3.5	2.5	10.0	9.0	12.0		37.5



Item Seven:

Yes, Kentucky Environmental and Public Protection Cabinet
Division of Water.

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET
DEPARTMENT FOR ENVIRONMENTAL PROTECTION

Ernie Fletcher
Governor

Frankfort Office Park
14 Reilly Road
Frankfort, Kentucky 40601
www.kentucky.gov

LaJuana S. Wilcher
Secretary

March 28, 2006

Lori Simpson
Northern Kentucky Water District
700 Alexandria Pike
Ft. Thomas, KY 41075

Dear Ms Simpson,

At the March 2006 meeting of the Kentucky Board of Certification of Drinking Water Treatment and Distribution System Operators your training request was reviewed.

Course Title	Approval Status	Hours & Type	DCA Event ID #
Regulatory Update	Approved	1.0 drinking water	4063

The roster was attached to your request. The hours will be added to the attendee's electronic training database. Please refer to the DCA Event ID number in future correspondence regarding this course.

If you have any questions or need additional information, please contact the Division of Compliance Assistance, Operator Certification at (502) 564-0323.

Sincerely,

Lisa Butler

Lisa Butler
Program Coordinator
Operator Certification

Item One:

Northern Kentucky Water District
2835 Crescent Springs Road
Erlanger, Kentucky 41018

Item Two:

Name: Electricity

Sponsor: Northern Kentucky Water District
Owen Electric

Subject Matter: Electricity: What is it, How does it Work, What is Cost, and How's it effect the Water Industry

Item Three:

This presentation will cover the various aspects of the need, cost, and planning for electrical cost to the water District and its equipments. What is peak and off peak times, how much does it cost, and how can the District save cost by using electric wisely.

Item Four:

1/2 Credit Hour – Copy of attendance Sheet.

Northern Kentucky Water District

Date: 6/23/06

PSC Continuing Education Credits

Course Title Electricity

Course Instructor Chuck Gill, Electrical Engineer

Course Location Board Room, Erlanger Office

Print Name	Signature	Hours Earned
Drew Collins		0.5
Frank Jackson		0.5
Joe Koester		0.5
Fred Macke		0.5
Patricia Sommerkamp		0.5
Doug Wagner		0.5

Sponsor Name: Bari L. Joslyn

Date: 8/17/2006

Item Five:

Mr. Charles Gill, M.B.A.

Bio of the presenter attached

Charles Gill
Owen Electric Cooperative, Inc.

Chuck Gill is the Chief Information Officer for Owen Electric Cooperative a 55,000 member owned cooperative serving Northern Kentucky. Chuck has a B.S. in Electrical Engineering from West Virginia University and a Master of Business Administration from George Mason University. Chuck has over 20 years experience in the electric distribution industry and has been very active in civic endeavors in Owen County.

Item Six:

Copy of Materials are attached

Continuum 21
30 minutes

ELECTRICITY.....

OWEN Electric

A Touchstone Energy® Cooperative

Basic Electric Terms/Equipment

Volts, Amps and Watts….It all sounds "Greek" to me

- Common Terms
- Electric Equipment
- Why doesn't it work all the time?

Basic Electric Terms

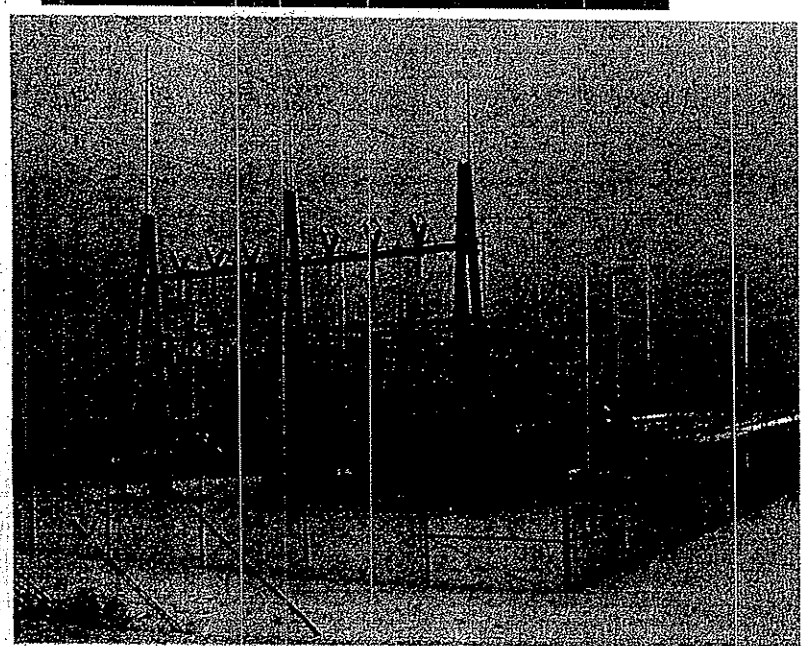
Electric terms described analogous to a water pipe

- Volt - Unit of electrical potential and electromotive force similar to water pressure
- Amp - Unit of measure of electrical current similar to the amount of water traveling in a pipe
- Watt - Unit of measure of power which is volts times amps
- Kilowatt hour - Unit of measure of power over a period of time similar to gallons in a hour

How Do Utilities Make Money?

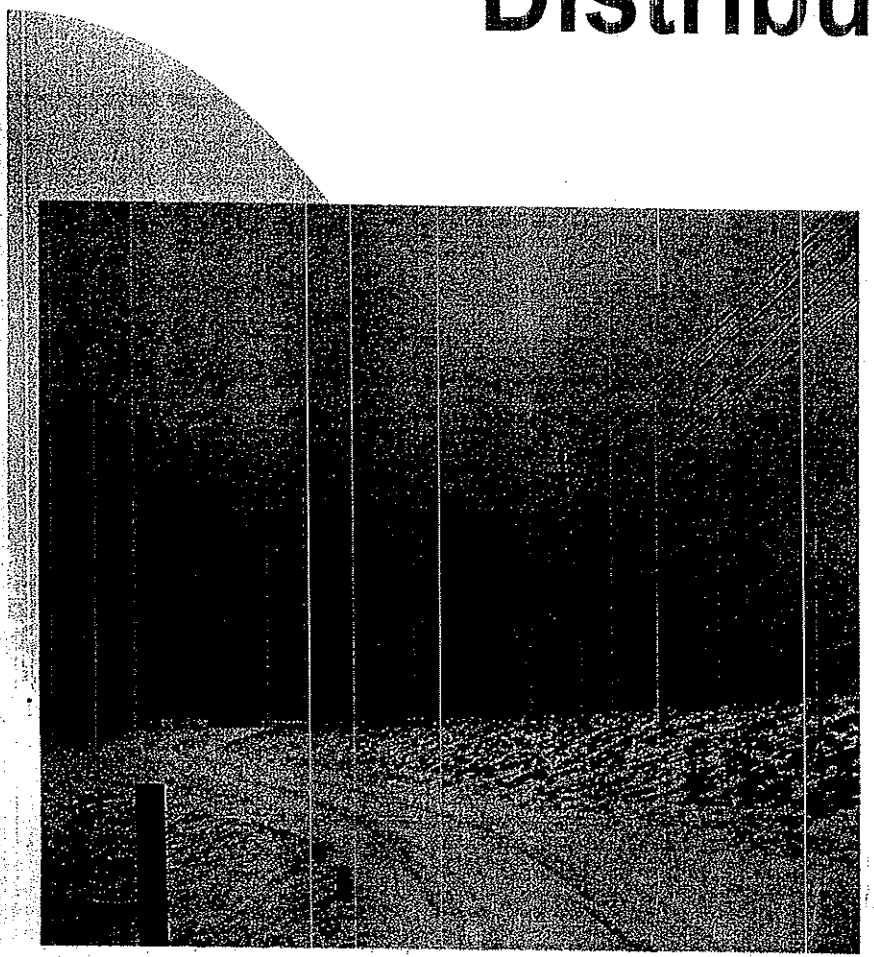
- Customer Charge – The flat base charge per month it costs the utility to be able to supply energy to you regardless if you use any electricity. Also called Facility Charge and it based on the cost to serve each customer class.
- Energy – You are billed for every KWHr of electricity you use. Use 1KW of electricity for one hour and you will be billed 1KWHr.
- Demand – The charge associated with supplying your peak usage. Typically it is the highest 15 minute average during the month. If you turn on a motor (10 KW) for fifteen minutes once a month you are billed 10KW.

Transmission/Substations



- Transmission Voltages are anything above 35 KV
- Utilities operate transmission lines at various voltage levels, 345, 161, 138 & 69 KV
- Substations convert the high voltages to lower voltages for the distribution system

Distribution System - OEC



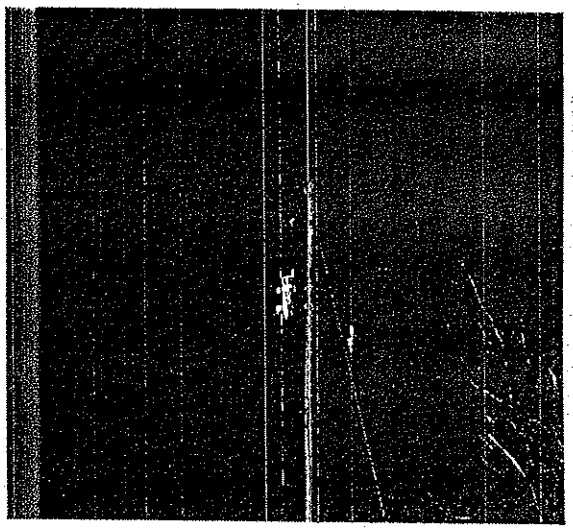
- Distribution circuits run from each substation typically operate at 25 KV and 12.5 KV
- Most feeder circuits are looped and radial feeds. This allows the utility to backfeed each substation and circuit.

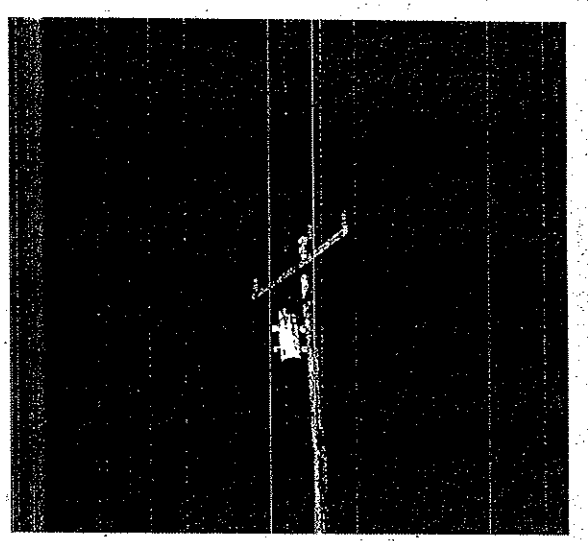
Electric Equipment

- Poles and Wires
- Transformers & Regulators
- Sectionalizing Devices - Reclosers and Fuses

Poles and Wires

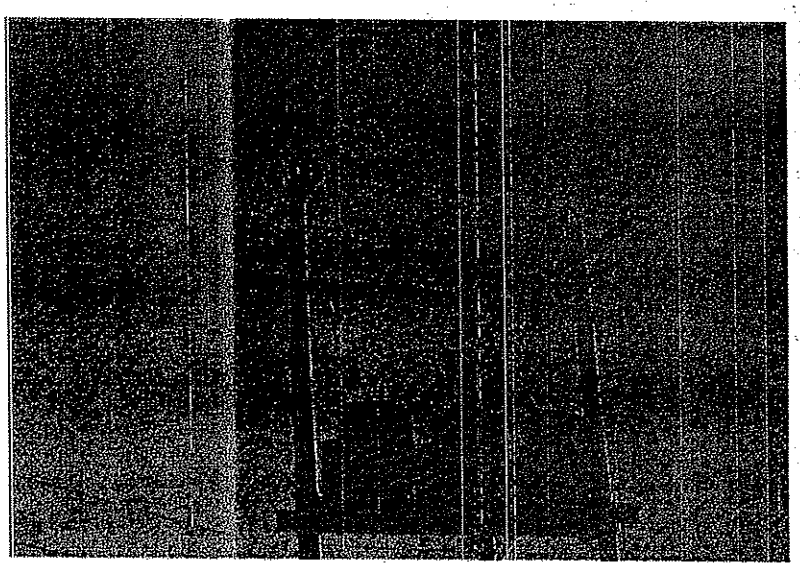
- Utilities serve distribution loads with three phase and single phase lines
- Wire size is determined by use and application. The larger the conductor the more amps it can handle and thus more power
- The limiting factors on a utility for moving electricity from point A to point B are:
  - Distance
  - Size of Infrastructure (Conductor, Substation, Transformers)
  - Load on the circuit





Common Question…. Why can a bird land on the overhead wire?

Transformers

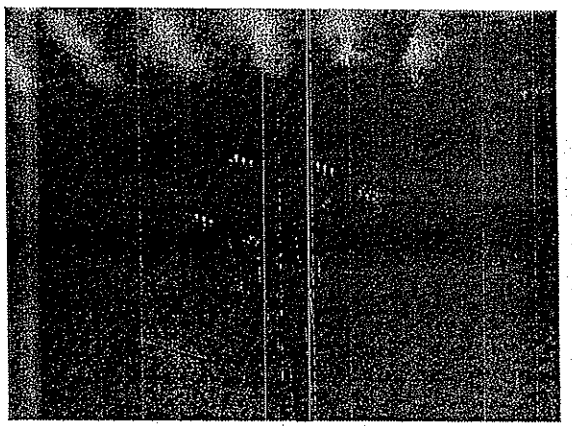


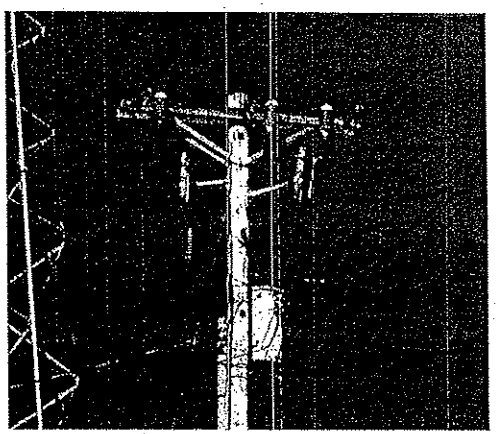
- Transformers change the voltage from a higher voltage to a lower voltage.
- Rated by KVA - higher the rating the more power output
- Transformers can be single or three phase, overhead or underground depending on the application

Common Question.... Why does one house have a voltage of 122/244 volts and another have 118/238 volts?

Sectionalizing Devices - Reclosers and Fuses

- These devices allow OEC facilities to clear and/or isolate faults on our system
- Faults are caused by a number of factors - lightning, R-O-W, equipment failure, animals, cars….
- Once a fault occurs the fuse or recloser operates, isolating it from the rest of the system or allowing fault to clear itself.



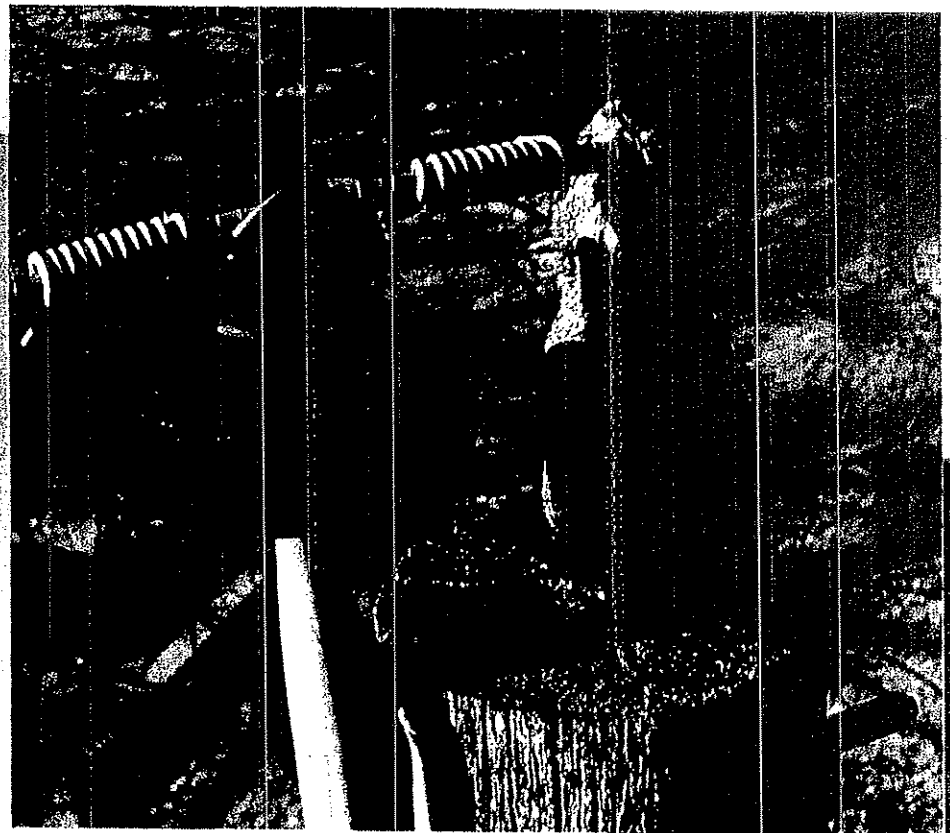


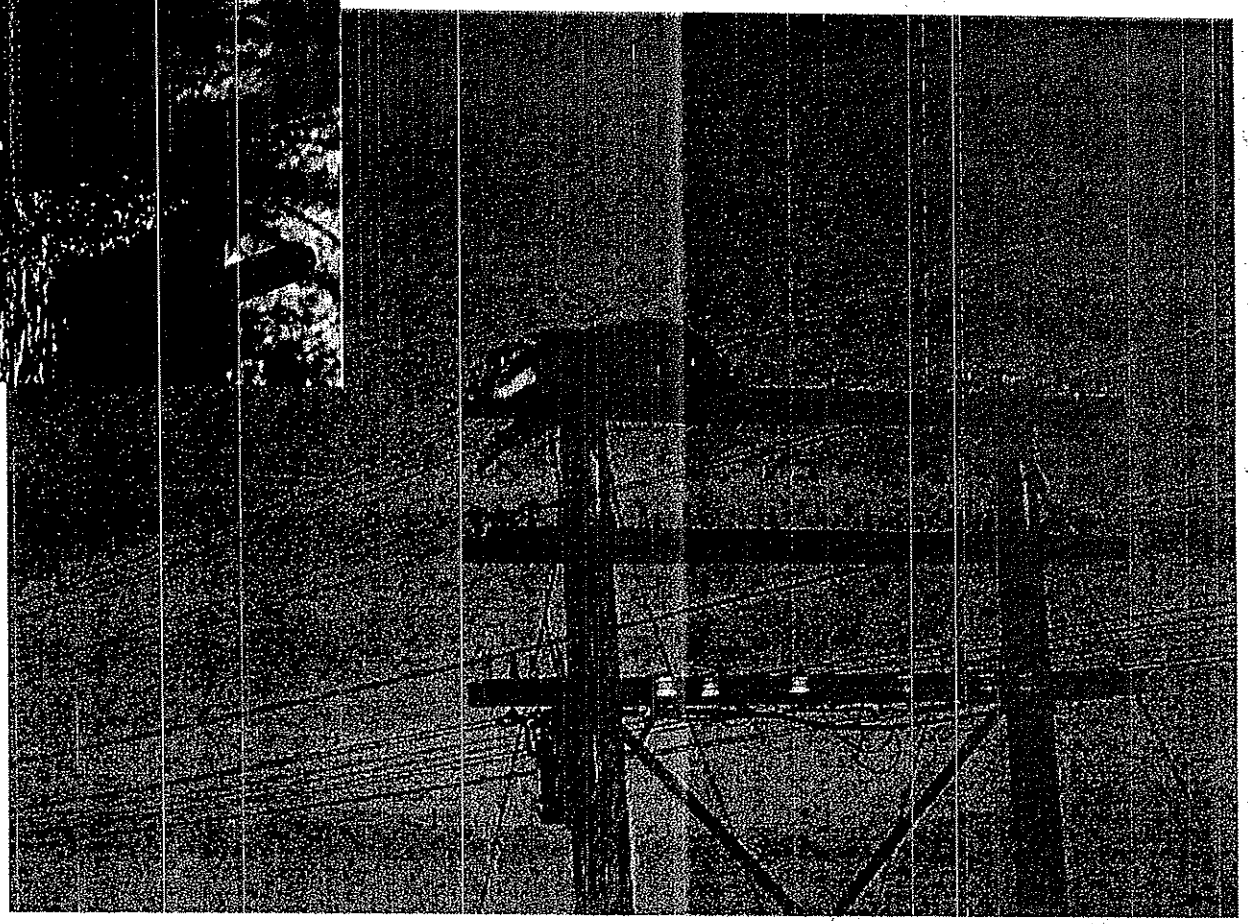
Common Question…..Why do my lights blink a couple of times and then go out?

Real Life

- You all are in the water business and electricity should be perfect!
- What impacts Duke Power and OEC from making it perfect.

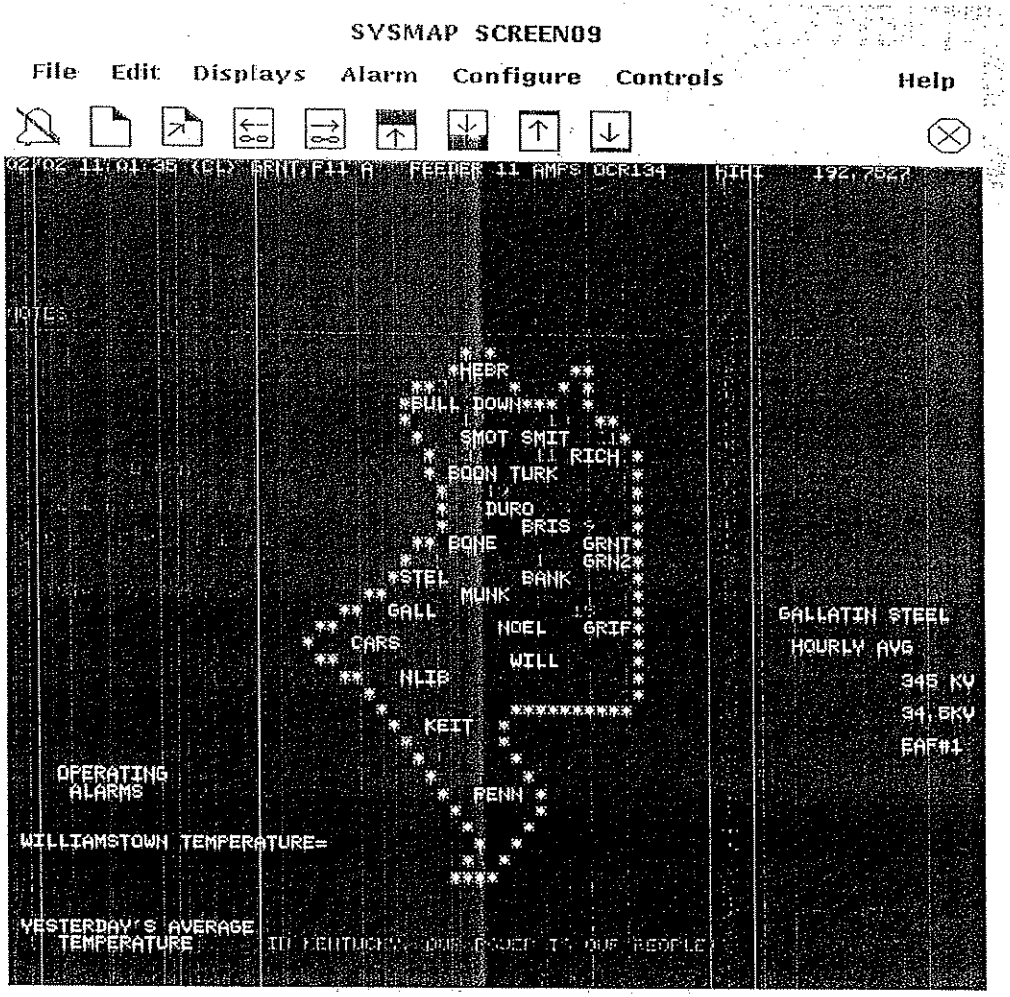
Not typical outages!!!



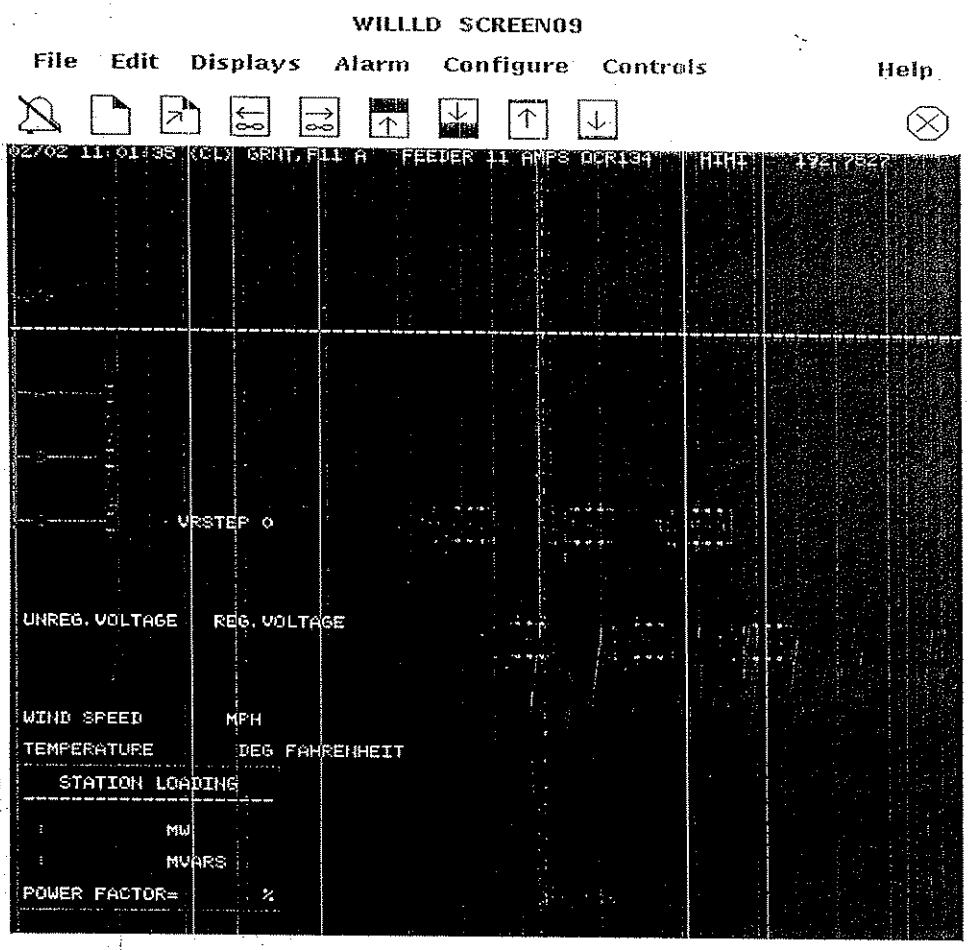


SCADA System Screen

All Substations are monitored through the SCADA System (SCADA - System Control and Data Acquisition)



Substation SCADA Screen



Each Substation's circuits are monitored and reclosers can be opened and closed from the dispatch center

Additional Utility Improvements

- ERP – Emergency Restoration Plans (Large and Small)
- Outage Management Systems
- GIS – Mapping Systems
- WMS – Work Management Systems
- Sectionalizing the Distribution System
- Proper Planning for Growth and Maintenance
- Distribution Automation
- AMR – Remote Meter Reading
- AVL – Automatic Vehicle Locating

QUESTIONS?

Item Seven:

No.

Item One:

Northern Kentucky Water District
2835 Crescent Springs Road
Erlanger, Kentucky 41018

Item Two:

Name: Plant Flow & Redundancy

Sponsor: Northern Kentucky Water District

Subject Matter: To inform the Commissioners on how water supply is distributed from the water plants to the distribution system and equipment needed to maintain required pressure level set by PSC.

Item Three:

This presentation will show the commissioners the total operation of moving water from the plants operated by the District to the customers of the District. It will explain how the system is laid out in grids and different pressure zones. It will also cover the need for certain types of redundancy in the distribution system to prevent major outages for an extended period of time.

Item Four:

1/2 Credit Hour – Copy of Board Minutes showing commissioners attendance.

Northern Kentucky Water District
Board of Commissioners Meeting
July 26, 2006

A regular meeting of the Board of Commissioners of the Northern Kentucky Water District was held on July 26, 2006 at the District's facility at 2835 Crescent Springs Road in Erlanger, Kentucky. All Commissioners were present. Also present were Ron Lovan, Richard Harrison, Bari Joslyn, Mark Lofland, Jack Bragg, Bill Wulfeck, Amy Kramer, Don Gibson, Bob Buhrlage, Jim Dierig, Mary Carol Wagner, Frances Robinson, Barbara Northcutt, Jack Hughes and Charles Pangburn.

Commissioner Koester called the meeting to order.

Ms. Kramer of the District staff led those in attendance in the Pledge of Allegiance.

Ms. Joslyn of the District staff delivered a presentation to the Board on Plant Flow and Redundancy.

The Board reviewed articles published and correspondence received since the last regular Board meeting on June 23, 2006.

On motion of Commissioner Wagner, seconded by Commissioner Jackson, the Board unanimously approved the minutes for the regular Board meeting held on June 23, 2006.

On motion of Commissioner Macke, seconded by Commissioner Sommerkamp, and after discussion, the Board unanimously approved the expenditures of the District for the month of June, 2006.

On motion of Commissioner Wagner, seconded by Commissioner Collins, and after discussion, the Baord unanimously agreed to award the Four Mile Pike 8-inch water main extension project to J. Daniel and Co. and to authorize the District staff to execute appropriate contract documents.

On motion of Commissioner Sommerkamp, seconded by Commissioner Collins, and after discussion, the Board unanimously agreed to authorize the District staff to execute an agreement with the City of Fort Wright for the Marcella Drive and St. Anthony Drive water main replacement project.

On motion of Commissioner Jackson, seconded by Commissioner Collins, and after discussion, the Board unanimously agreed to award the Glenn Avenue redundancy and water main replacement project to RFH Construction and to authorize the District staff to execute appropriate contract documents.

On motion of Commissioner Wagner, seconded by Commissioner Sommerkamp, and after discussion, the Board unanimously agreed to award the Ohio River Pump Station standby

generators project to Lake Erie Electric and to authorize the District staff to execute appropriate contract documents.

On motion of Commissioner Sommerkamp, seconded by Commissioner Collins, and after discussion, the Board unanimously agreed to reject all bids received for the replacement of the discharge line at the Ohio River Pump Station 2.

On motion of Commissioner Wagner, seconded by Commissioner Collins, and after discussion, the Board unanimously agreed to authorize the purchase of the following vehicles from the vendors indicated:

3/4 ton HD pickup truck with service body 4x2	Countryside Motors, Inc.
3/4 ton pickup truck with service body 4x4	Countryside Motors, Inc.
3/4 ton pickup truck with extended cab 4x2	Walt Sweeney Ford

The Board reviewed the District's financial reports and Department reports.

The Board unanimously agreed to move the December, 2006 regular Board meeting to December 14, 2006 at 12:30 p.m.

Mr. Pangburn excused himself and departed the Board meeting.

On motion of Commissioner Sommerkamp, seconded by Commissioner Wagner, the Board unanimously agreed to go into executive session under the provisions of KRS 61.810(1)(c) to discuss proposed or pending litigation.

The Board returned to open session.

On motion of Commissioner Sommerkamp, seconded by Commissioner Wagner, the Board unanimously agreed to authorize the District's legal counsel to file an appeal of the Public Service Commission's order of July 12, 2006 in Case 2004-00309 in the matter of the District's tariff filing to amend its cross-connection control policy.

There being no further business to come before the Board, the meeting was adjourned.

CHAIR

SECRETARY

Item Five:

Mr. Richard Harrison, P.E.

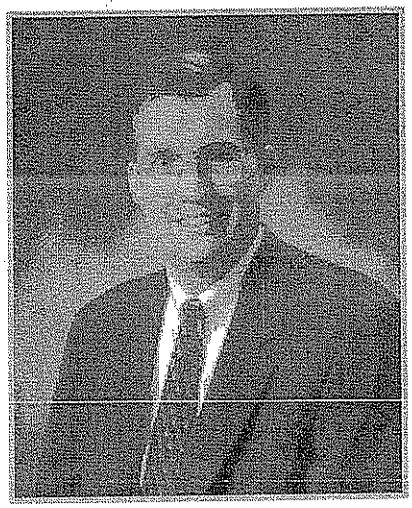
Bio of the presenters attached

Northern Kentucky Water District

2835 Crescent Springs Road | Erlanger, Kentucky 41018 | 859-578-9898

CUSTOMER SERVICE
RATES/REGULATIONS
WATER QUALITY
CONSERVATION
CURRENT PROJECTS
JUST FOR KIDS
EMPLOYMENT
FAQ

BACK TO VPS
Bari Joslyn
Jack Bragg
Mark Lofland
Richard Harrison



Richard Harrison
Engineering and Distribution

Richard Harrison is the Vice President of Engineering and Distribution at the Northern Kentucky Water District. He has a Bachelor's of Science Degree in Civil Engineering from the University of Kentucky and is a Licensed Professional Engineer in the State of Kentucky. The group he manages is responsible for the maintenance of the distribution system and the procurement of professional services, design and construction management for new projects for the District.

Richard is the past President and current member of the Covington Rotary Club and a member of the Northern Kentucky Society of Professional Engineers. He is also a member of the American Water Works Association serving as an executive committee member of the Water Utility Council. He is a 1996 graduate of Leadership Northern Kentucky.

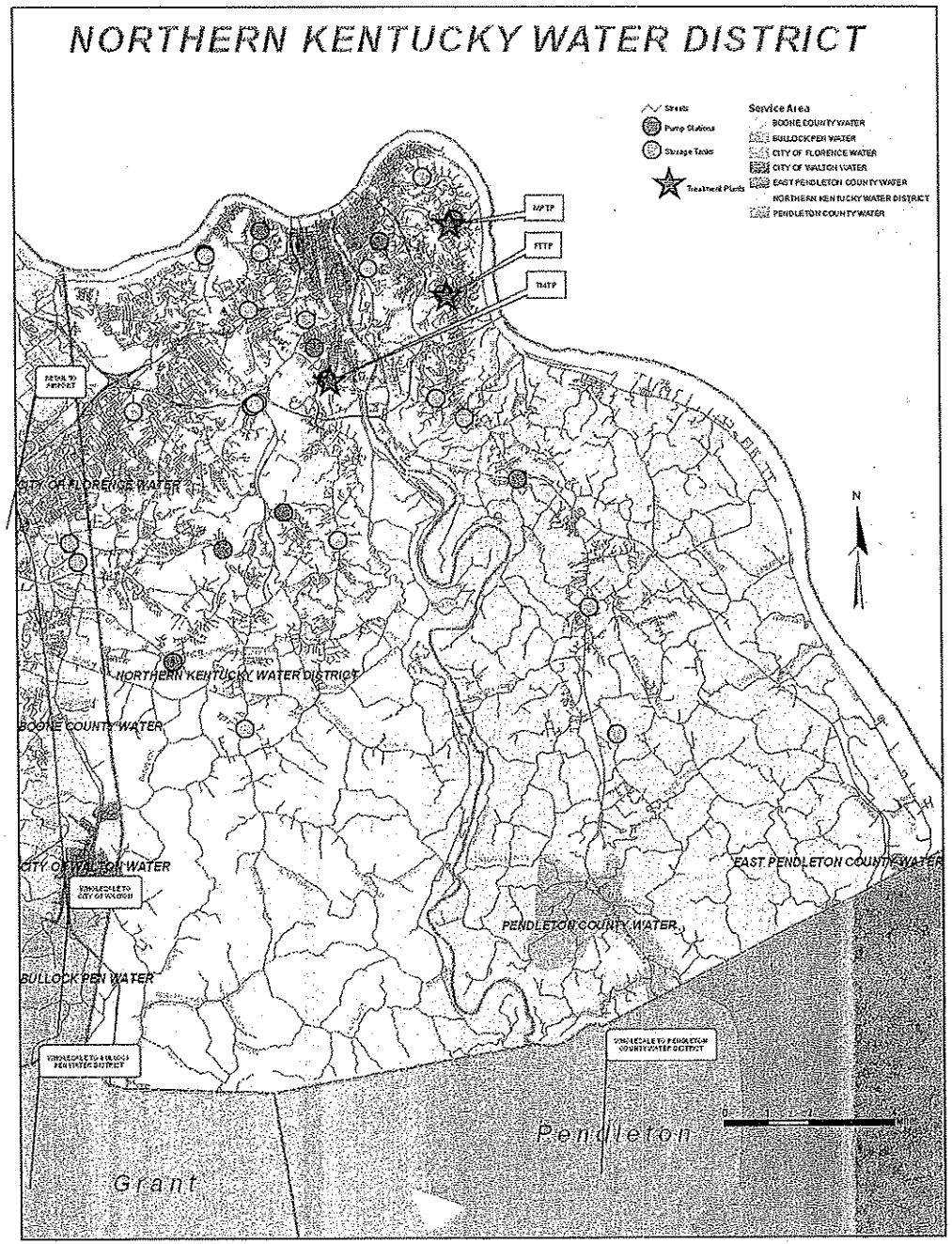
Richard has been with the Northern Kentucky Water District since 1988.

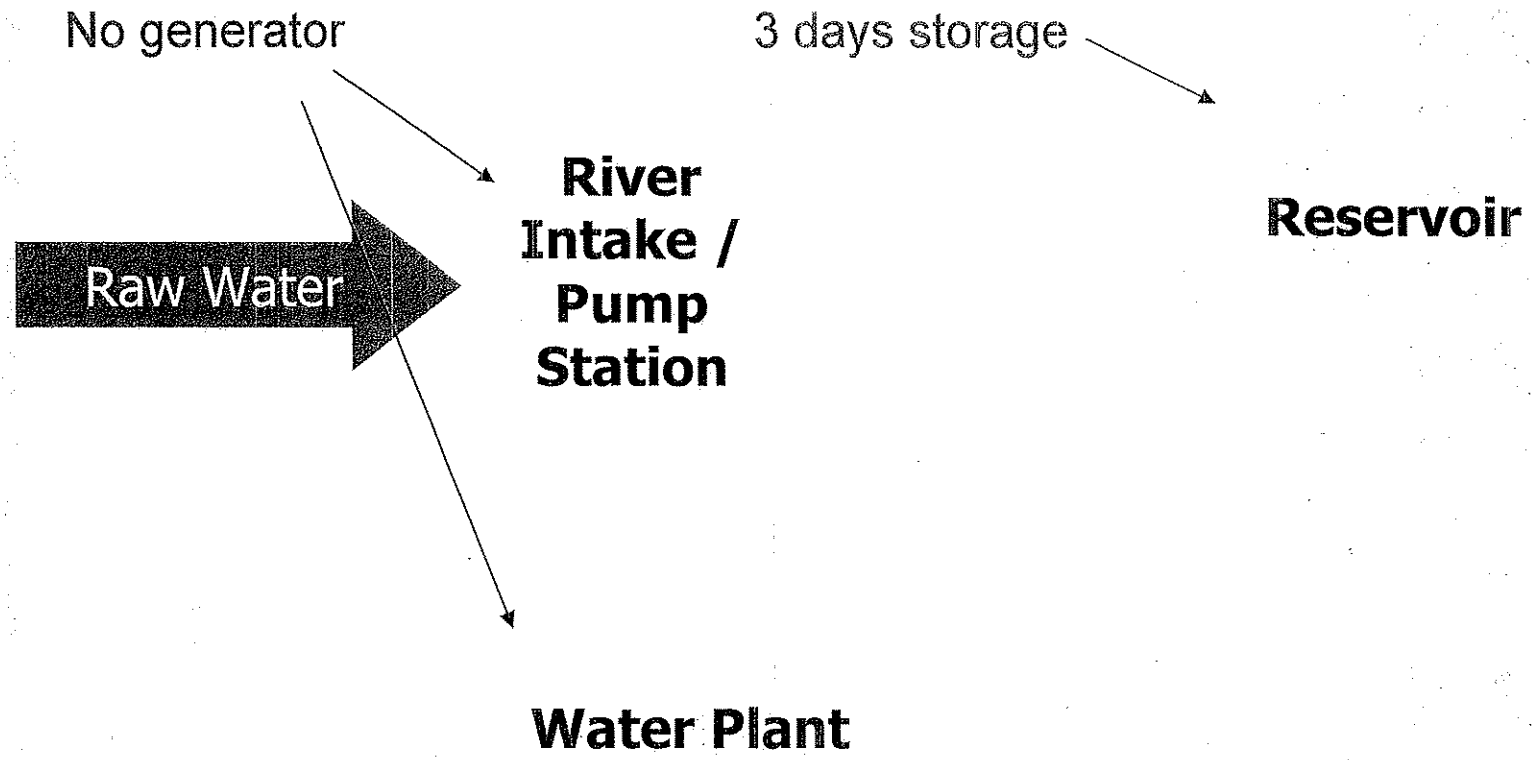
Item Six:

Copy of Materials are attached

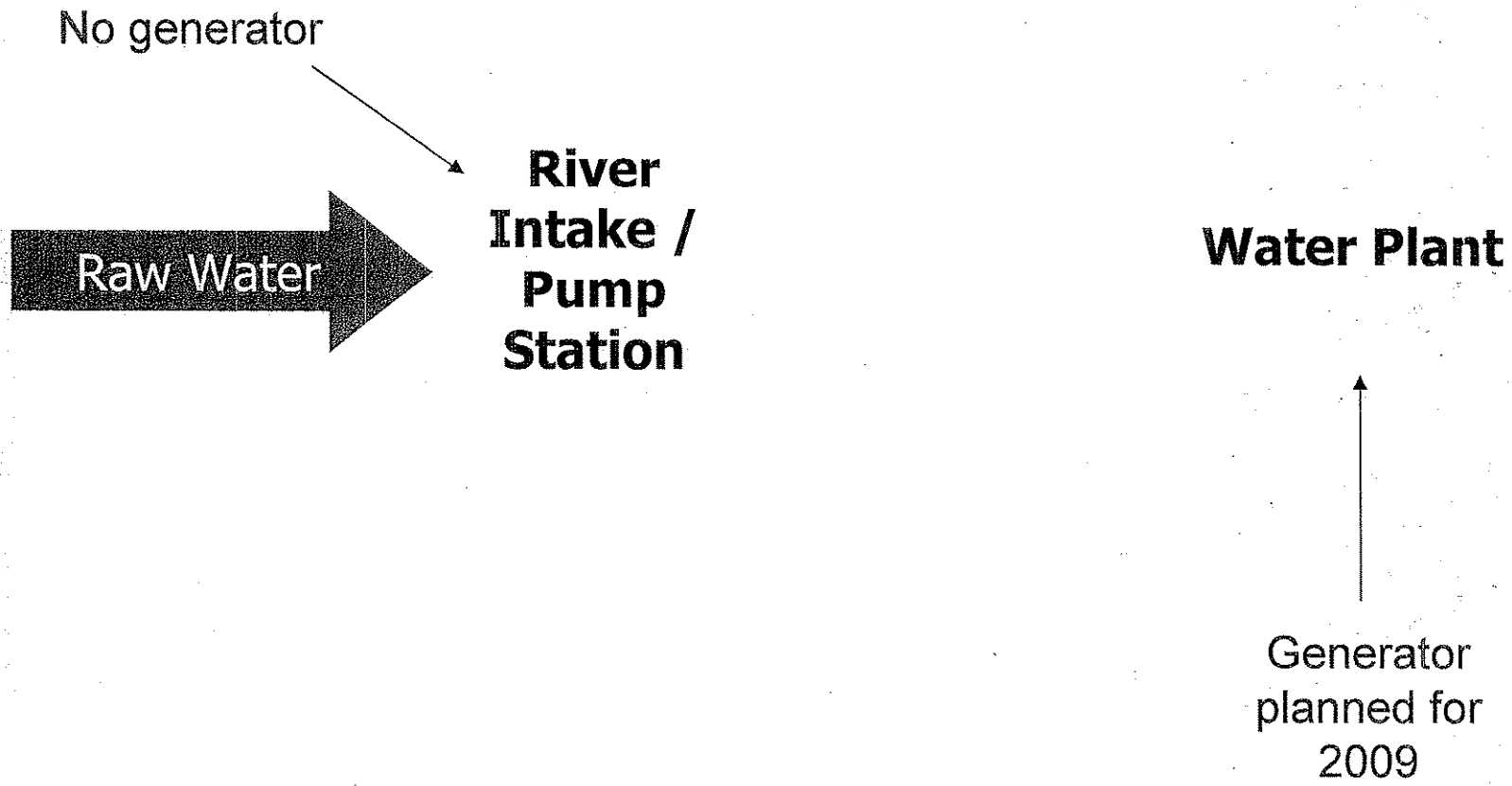
Plant Flow and Redundancy

7/26/2006

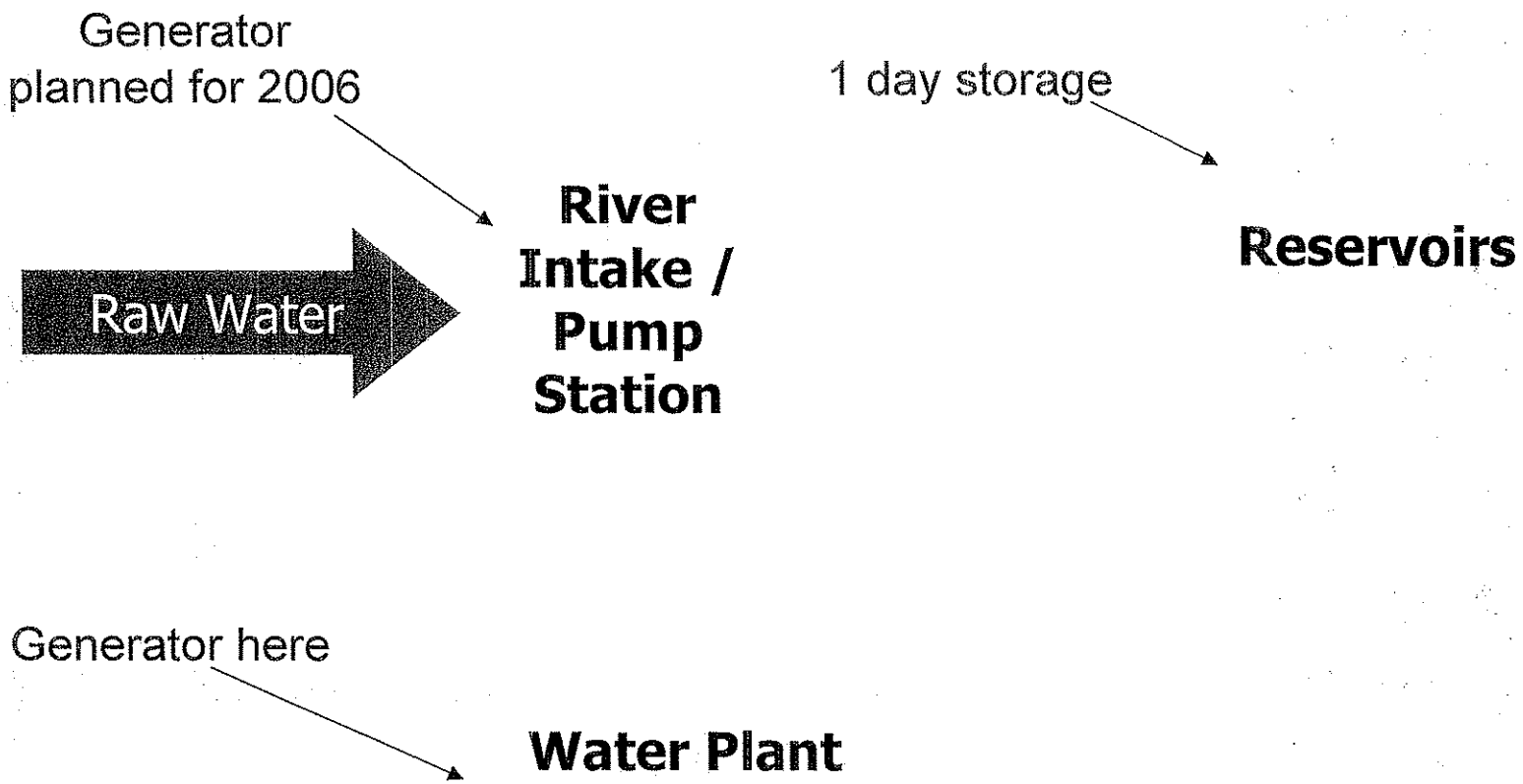

NORTHERN KENTUCKY WATER DISTRICT
Streets
Pump Stations
Storage Tanks
Treatment Plants
Service Area
BOONE COUNTY WATER
BULLOCK PEN WATER
CITY OF FLORENCE WATER
CITY OF WALTON WATER
EAST PENDLETON COUNTY WATER
NORTHERN KENTUCKY WATER DISTRICT
PENDLETON COUNTY WATER
WTP
FTTP
TMTP
N
CITY OF FLORENCE WATER
NORTHERN KENTUCKY WATER DISTRICT
BOONE COUNTY WATER
CITY OF WALTON WATER
BULLOCK PEN WATER
EAST PENDLETON COUNTY WATER
PENDLETON COUNTY WATER
Grant
Pendleton



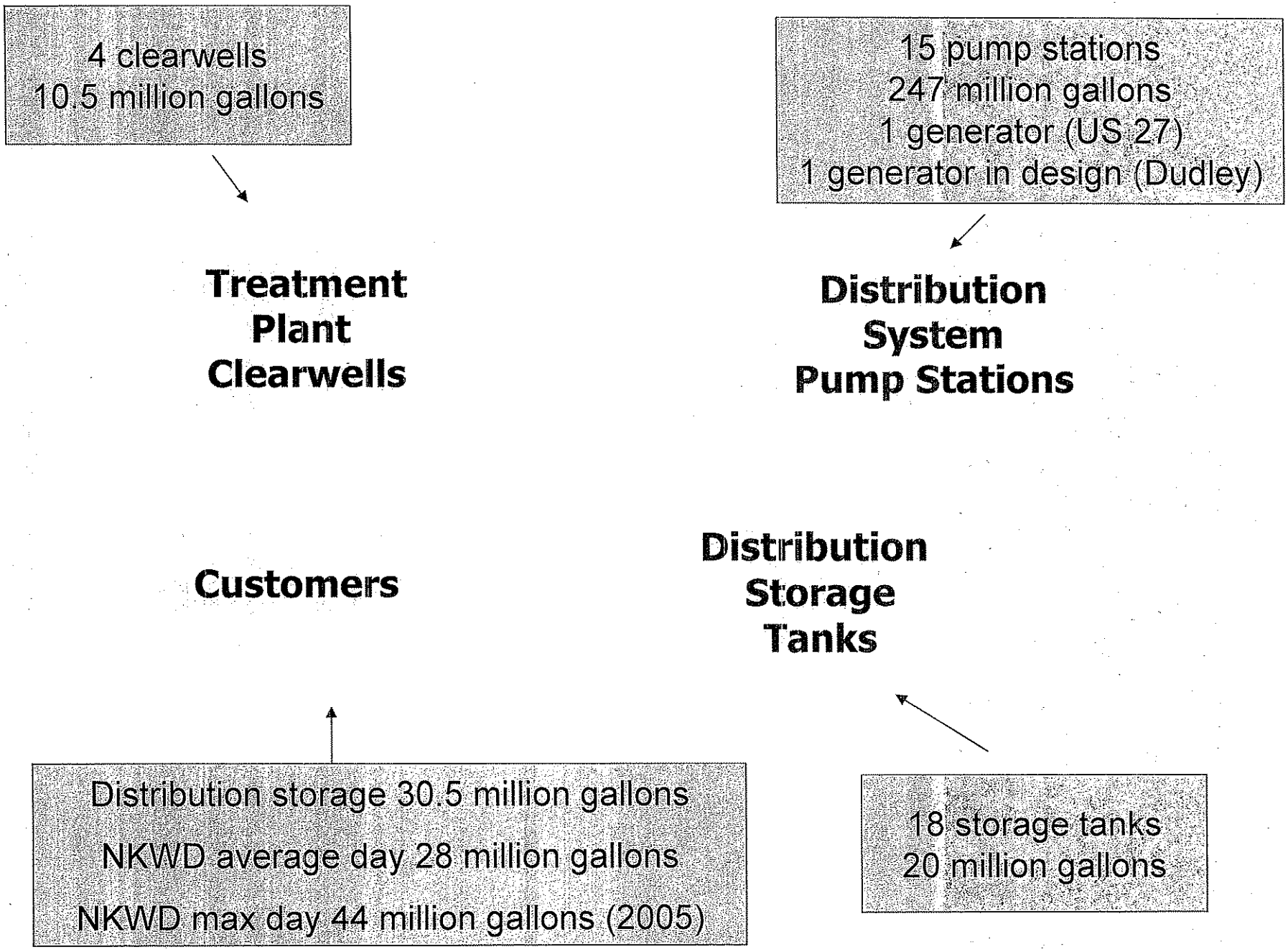
Memorial Parkway Treatment Plant
Rated: 10 MGD
Max: 5 MGD
Redundancy is Fort Thomas Treatment Plant



Taylor Mill Treatment Plant
Rated: 10 MGD
Max: 10 MGD
Redundancy is Fort Thomas Treatment Plant



Fort Thomas Treatment Plant
Rated: 44 MGD
Max: 35 MGD


4 clearwells
10.5 million gallons
Treatment
Plant
Clearwells
15 pump stations
247 million gallons
1 generator (US 27)
1 generator in design (Dudley)
Distribution
System
Pump Stations
Customers
Distribution
Storage
Tanks
Distribution storage 30.5 million gallons
NKWD average day 28 million gallons
NKWD max day 44 million gallons (2005)
18 storage tanks
20 million gallons

Item Seven:

No.

Item One:

Northern Kentucky Water District
2835 Crescent Springs Road
Erlanger, Kentucky 41018

Item Two:

Name: Regulatory Update Part II

Sponsor: Northern Kentucky Water District

Subject Matter: Status and update on new water quality mandates and new regulations and time frame. Continuation of the program presented in February of 2006. Where does the District Stand and what are the options to meet the mandates.

Item Three:

This presentation pickups up where the presentation in February ended and continues to cover the new mandates. It also shows the options available to the District, what the current levels are and what they will need to be in the near future. It will also cover various new treatment methods and the plus and minus of each.

Item Four:

One Credit Hour – Sign in sheet is attached.

Northern Kentucky Water District

Date: 8/17/06

PSC Continuing Education Credits

Course Title Regulatory Update

Course Instructor Bari L. Joslyn, Vice President

Course Location Board Room, Erlanger Office

Print Name	Signature	Hours Earned
Drew Collins		1
Frank Jackson		1
Joe Koester		1
Fred Macke		1
Patricia Sommerkamp		1
Doug Wagner		1

Sponsor Name: Bari L. Joslyn

Date: 8/17/2006

Item Five:

Ms. Bari Joslyn, M.E.S

Bio of the presenter attached

Bari Joslyn is the Vice President of Water Quality and Production at the Northern Kentucky Water District. She has a Bachelor's Degree in Biology from Northern Kentucky University and a Master's Degree in Environmental Science from the University of Cincinnati.

Bari has a Class IV water treatment plant operator's license and a Class IV distribution license from the Kentucky Department of Natural Resources.

Bari is a Past Chair of the KY-TN Section of AWWA and is currently the KY-TN Director. She is active in the Covington-Kenton County Kiwanis Club, serves on the Board of Trustees for the St. Elizabeth Medical Center and serves as Chair of the Northern Kentucky Mental Health and Mental Retardation Board.

Bari has been with the Northern Kentucky Water District since 1978.

Item Six:

Copy of Materials are attached

Continuing Ed 1 hour

2012 Regulatory Update

(Part 2)

Commission Meeting Education

KEY GOALS

Northern Kentucky Water District Strategic Direction

- **Security:** *Represents an ongoing assessment and implementation of security measures in a cost-effective manner.*
- **New Regulations:** *Represents an ongoing assessment and implementation of new and future federal/state standards.*
- **Fiscal Responsibility:** *Represents a comprehensive approach to long-term fiscal soundness through planning, revenue enhancement, operational efficiency and long-term rate strategy.*
- **Customer Service:** *Represents the establishment of the most effective options to meet the expectations and needs of our customers.*
- **Staff:** *Represents an effort to maintain a safe and desirable workplace, remaining competitive with compensation, fringe benefits, recognition and on-going training and succession planning programs, with a focus on building teamwork and inclusiveness.*
- **Consumer and Regulatory Education and Communication:** *Represents consumer and regulatory education and communication enabling the District to build goodwill, strong customer support and interaction with the business community.*

2012 Regulatory Compliance

- Summary of the two new rules
- What is a disinfection by-product?
- NKWD treatment process
- How are we complying now?
- First sampling results for the new DBP rule
- Treatment options
- To-Do List and Decision matrix
- Upcoming action items

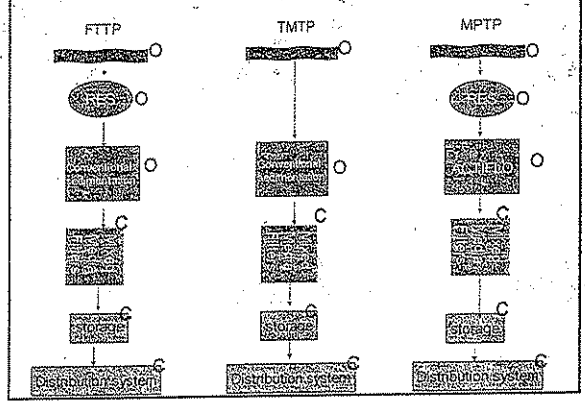
TWO NEW RULES SUMMARY – COMPLIANCE BY 2012

- Long Term 2 Enhanced Surface Water Treatment Rule
  - Source water monitoring for crypto
  - Results determine future treatment technology
  - NKWD should comply
- Disinfection By-Product Rule
  - Find highest TTHMs and THAAs in system
  - Locational running annual average
  - NKWD will probably not comply

WHAT IS A DISINFECTION BY-PRODUCT (DBP)?

- A DBP is a compound that is formed when the disinfectant (chlorine for example) reacts with the naturally occurring organic matter (dirt, leaves, animal waste) in the raw water
- Total Trihalomethanes (TTHMs) and Total Haloacetic Acids (THAAs) are examples of DBPs
  - These are the only two DBPs included in this rule
  - There are hundreds of other DBPs not yet regulated
- TTHMs and THAAs increase with water age and with amount of disinfectant added

ORGANICS (O) + LIQUID CHLORINE (C) = DBP



HOW ARE WE COMPLYING RIGHT NOW? (ug/L)

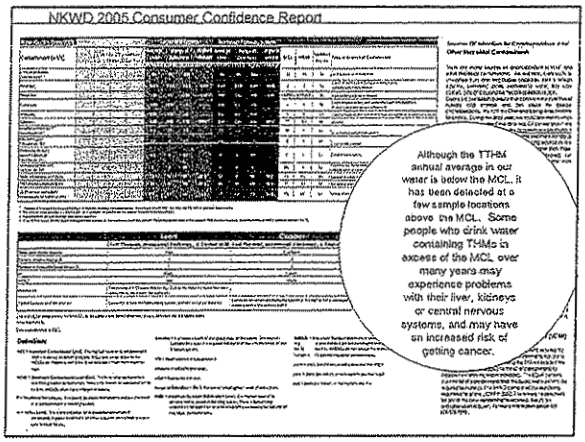
TTHM REGULATION: average of all locations = 80

- TTHMs range = 56 to 178

THAA REGULATION: average of all locations = 60

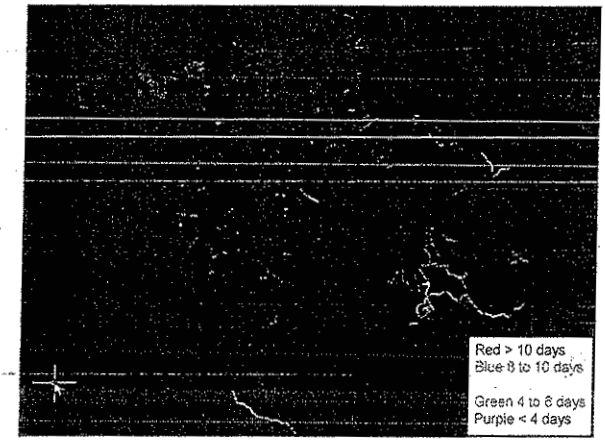
- THAAs range = 32 to 58

NKWD 2005 Consumer Confidence Report



2012 DISINFECTION BY-PRODUCT RULE

- Find highest readings of TTHMs and THAAs in distribution system
- Locational Running Annual Average
- TTHM 80 ug/L, THAA 60 ug/L
- Compliance date = 2012



WATER AGE

- Water age = high TTHMs, THAAs
- SURPRISE: Oldest water not necessarily the furthest away!!!

1st Sampling of Highest Readings July 2006, ug/L

TTHMs (max is 80)		THAAs (max is 60)	
Red Bud Lane, Ryland Heights	129	Flagg Springs	87
Hasco Tag Co., Dayton	127	Hasco Tag Co, Dayton	84
Visalia Rd	123	Sara Lee, Campbell Co	79
Wilder City Bldg	119	Walton Meter Pit	74
Dixie, Boone Co.	119	Dixie, Boone Co.	74
Airport	112	Ameristop, Alexandria	73
Walton Meter Pit	111	Ft Thos City Bldg	72
Decoursey, Ryland	108	Red Bud Lane, Ryland Heights	71
Apple Valley, Independence	108	Visalia Rd	70
Sara Lee, Campbell Co	107	Decoursey, Ryland	69

TREATMENT OPTIONS

ORGANICS REMOVAL

- Riverbank infiltration
- Powdered activated carbon
- Actiflo
- Enhanced coagulation
- Membranes
- Granular activated carbon
- MIEX

ALTERNATIVE DISINFECTANT

- Chlorine dioxide/ Chloramines
- Ozone

TREATMENT OPTIONS - ORGANICS REMOVAL

TREATMENT TYPE	DESCRIPTION	NKWD RESULT	WILL IT WORK ?
RIVERBANK INFILTRATION	Drill well near river – natural filtration	Geology not right in our area – also very $	No
POWDERED CARBON	Add chemical	Cannot add enough to be effective	No
ACTIFLO	Sand aids organic removal	Process alone does not remove enough	No

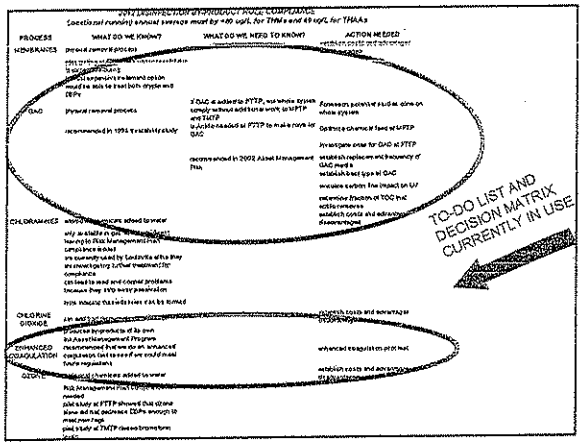
TREATMENT OPTIONS – ORGANICS REMOVAL CONTINUED

ENHANCED COAGULATION	Lower pH to aid in organics removal	Exploring in 2006 - 2007	?
MEMBRANES $45 million	Tightly woven mesh in large cartridges	Very expensive – past pilot studies show bacteriological build up	Yes
GRANULAR ACTIVATED CARBON $21 million	Additional filters in treatment process filled with carbon	Needs to be regenerated - has a big footprint – proven technology	Yes
MIEX $12 million	Use resin to take out organics – like actiflo	Few locations in US – discharge a problem – proprietary process	?

TREATMENT OPTIONS – DISINFECTION ALTERNATIVES

(NKWD = chlorine = used by 68% of surface water utilities in US)

CHLORINE DIOXIDE/CHLORAMINES $ 5 million (10% surface water utilities)	Chlorine dioxide = sodium chlorite and chlorine Chloramines = mixture of ammonia and chlorine	Not as effective as chlorine – can increase lead and copper leaching – has its own DBPs – adverse effect on kidney dialysis patients – does not reduce manganese – system shock required	?
OZONE/CHLORINE $7 million (1% surface water utilities)	Oxygen and electricity = O_3	Process alone does not reduce organics enough – also has its own DBPs	No



SUMMARY OF PROCESSES THAT WOULD WORK AND PROGRESS

PROCESS	INVESTIGATION COMPLETE
Enhanced coagulation	
Membranes	✓
Granular activated carbon	
MIEX	✓
Chlorine dioxide/chloramines	✓

INVESTIGATIONS TO COMPLETE

- Enhanced coagulation trial
  - Request board approval of engineering *assistance on August 17*
- Granular activated carbon analysis
  - Request board approval of engineering assistance in November

OUR CURRENT 5 YEAR CAPITAL BUDGET

Granular Activated Carbon at Fort Thomas

- $ 1 million 2009
- $ 9.5 million 2010
- $10.5 million 2011

Item Seven:

No.

Item One:

Northern Kentucky Water District
2835 Crescent Springs Road
Erlanger, Kentucky 41018

Item Two:

Name: Bond Issues & Process to Issue Revenue Bonds

Sponsor: Northern Kentucky Water District

Subject Matter: The process to issues bonds, obtain a rating from Moody's, approvals need and how the funds are distributed.

Item Three:

The purpose of this training session is to illustrate to the Board of Commissioners the process that takes place in order to issue long term financing to pay for capital projects. This program will lay out the steps taken by the District to advertise for bids, received bids, the distribution of those funds, how the debt payments are made and the paying of capital projects. The program will show the commissioners the total process and restrictions that are involved in a bond issue.

Item Four:

1/2 Credit Hour – Sign in sheet is attached.

Northern Kentucky Water District

Date: 9/21/2006

PSC Continuing Education Credits

Course Title Emergency Response Plan/Revenue Bond Basics

Course Instructor Bob Buhrlage, Bari Joslyn, Jack Bragg

Course Location Main Office, Erlanger

Print Name	Signature	Hours Earned
Joe Koester		1
Drew Collins		1
Fred A. Mack Jr		1
Douglas C. Wagner		1
Patricia Sommerkamp		1
Frank Jackson		1

Sponsor Name: Bari Joslyn

Date: 9/21/2006

Item Five:

Mr. Jack Bragg, CPA, CMA, MBA

Bio of the presenter attached

Jack Bragg, Jr. is the Vice President of Finance for the Northern Kentucky Water District. He has a Bachelors of Science in Accounting and a B.S. in Agricultural Economics from the University of Kentucky and a Master of Business Administration from Northern Kentucky University. He is a Certified Public Accountant and a Certified Management Accountant.

Item Six:

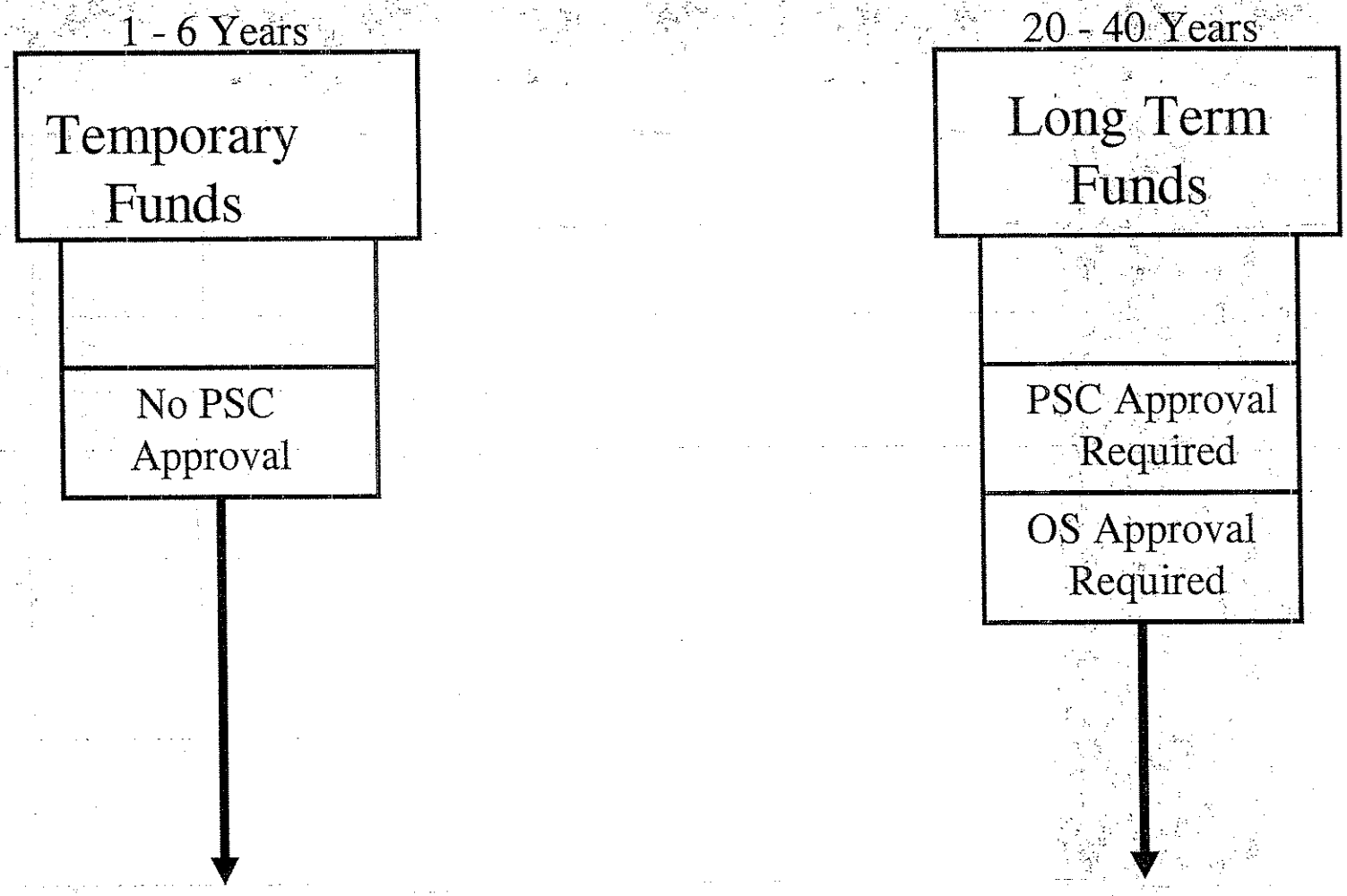
Copy of Materials are attached

Northern Kentucky Water District

Bond Issue
Rate Case 2005-00148
$29,000,000 Issue

9/21/06

BAN vs. Bond


1 - 6 Years
Temporary Funds
No PSC Approval
20 - 40 Years
Long Term Funds
PSC Approval Required
OS Approval Required

Northern Kentucky Water District

Review of Process

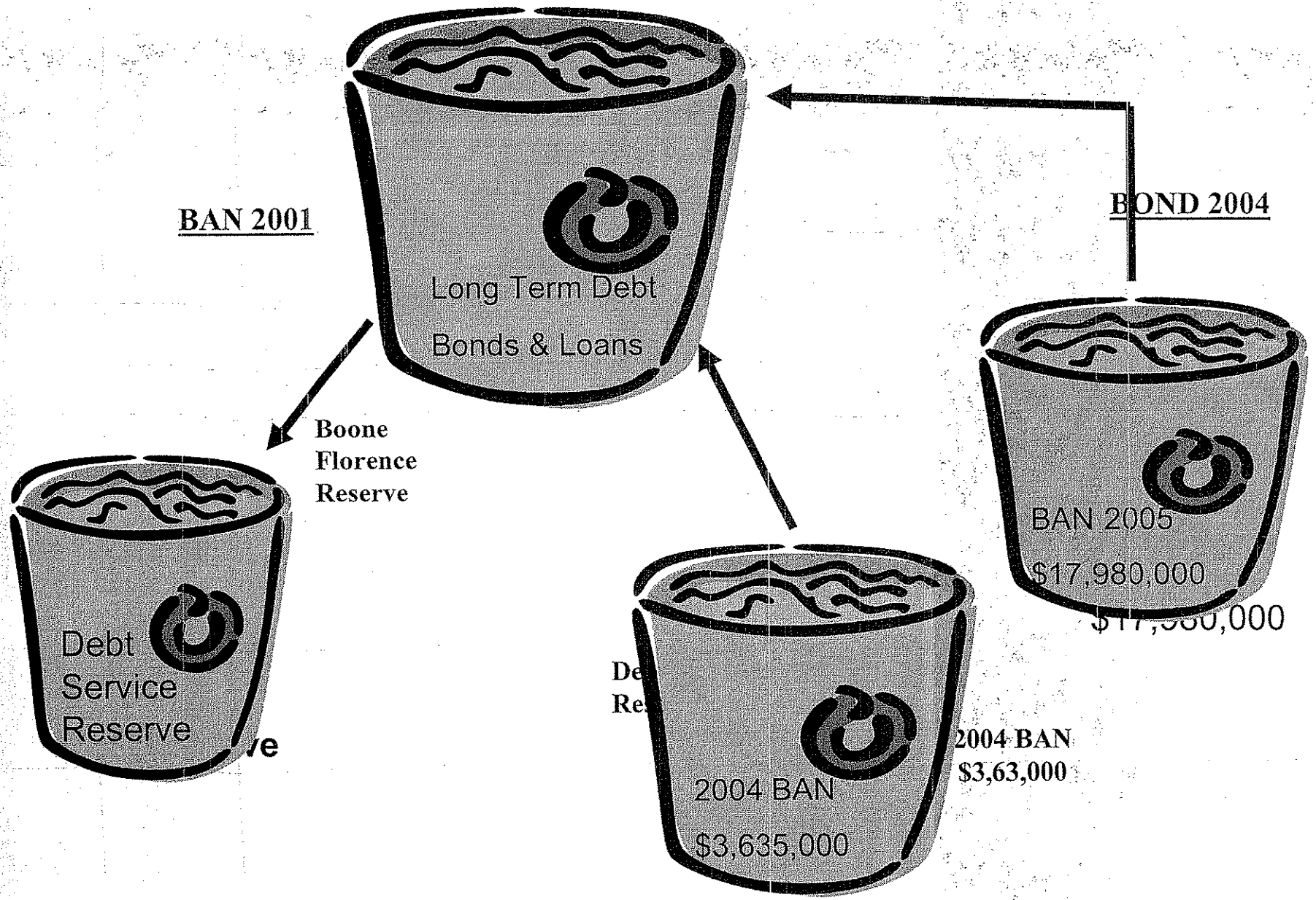
Sale
BAN
Bonds

Reserve Fund

Bond Funds

Payout Large Projects

Northern Kentucky Water District



Northern Kentucky Water District

Bond Sale Definitions & Participants

- Underwriter-securities dealer who buys bonds from issuer and resells to investors assuming risk.
- Financial Advisor (RSA)-Represent the District to develop issues to maximize the District's advantages. Provide communication with the potential bidders.
- Bond Counsel-(Peck, Shaffer, & Williams)-experienced in local, state, and federal tax and securities laws related to the issuance of debt to insure the bonds issued legally and with the intended tax status.
- Syndicate- a group of underwriters comprising a lead manager and competing firms that agree to bid together for an issue. The lead manager is the coordinator.

Northern Kentucky Water District

Financial Advisor Major Duties

- Evaluate funding options & recommend optimum plan for debt structure.
- Review debt structure for refinancing opportunities to provide lowest debt cost.
- Assist Bond Counsel with document development including preliminary & final Official Statements.
- Pre marketing of bond issue
- Assist and participate with closing arrangements & arbitrage regulations.
- Assist District in obtaining highest bond rating (Moody's)

Northern Kentucky Water District

Financial Advisor Major Duties

- Arrange for online bid process i-deal.com Parity system.
- Provide long term financing planning and expert testimony in PSC rate case hearings.

Northern Kentucky Water District

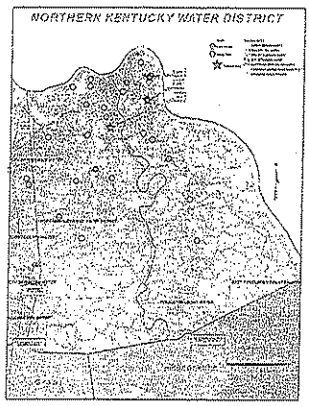
Process and Results

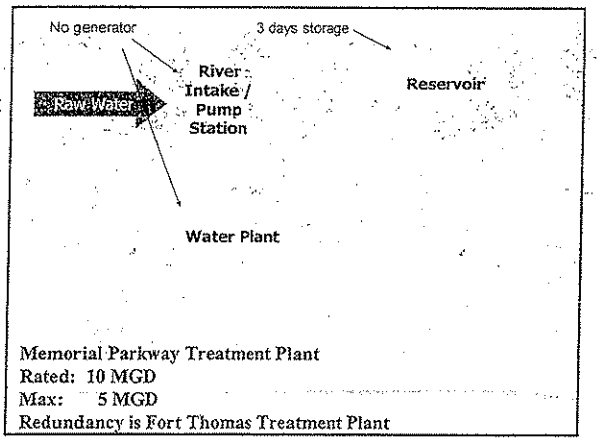
- Sale date: September 14, 2006
- Delivery: September 28, 2006
- Online bidding with eight participants on i-deal.com.
- Competitive market driven process
- Results

Continuing Ed 30 Minutes

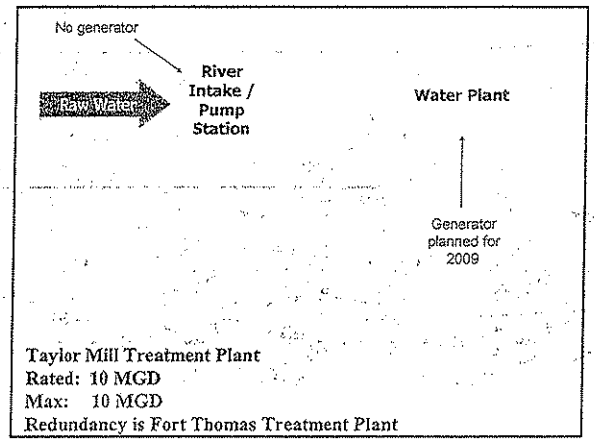
Plant and Distribution System Flow and Redundancy

NKWD Board of Commission Education

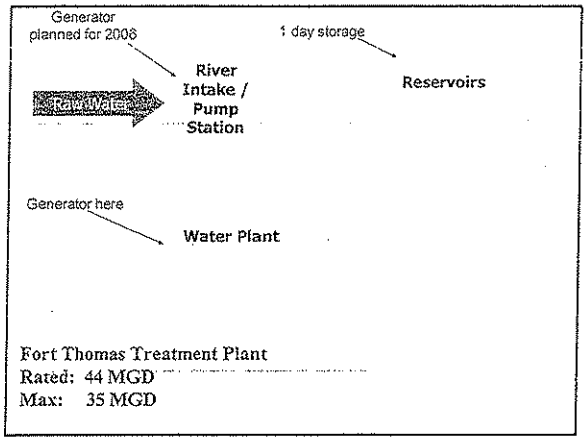




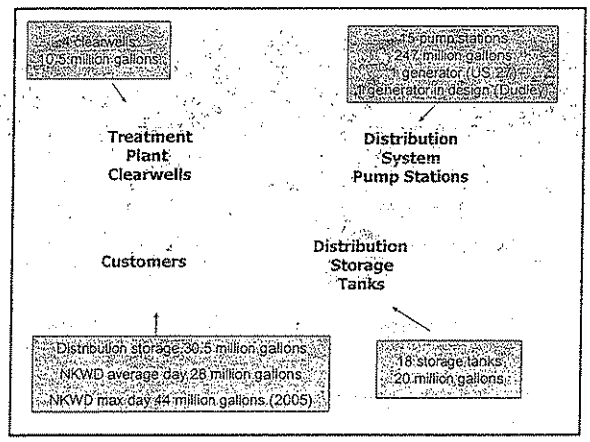
Memorial Parkway Treatment Plant
Rated: 10 MGD
Max: 5 MGD
Redundancy is Fort Thomas Treatment Plant



Taylor Mill Treatment Plant
Rated: 10 MGD
Max: 10 MGD
Redundancy is Fort Thomas Treatment Plant



Fort Thomas Treatment Plant
Rated: 44 MGD
Max: 35 MGD



Item Seven:

No.

Item One:

Northern Kentucky Water District
2835 Crescent Springs Road
Erlanger, Kentucky 41018

Item Two:

Name: Emergency Response Plan (ERP)

Sponsor: Northern Kentucky Water District

Subject Matter: The District's Emergency Response Plan and requirements by law.

Item Three:

This presentation gives the commissioners an over of the District's current Emergency Response Plan. The presentation will cover History, Purpose, Outline, Plans, Sample Plan, Uses, and the next steps to be taken.

Item Four:

½ Credit Hour – Sign in sheet is attached.

Northern Kentucky Water District

Date: 9/21/2006

PSC Continuing Education Credits

Course Title: Emergency Response Plan/Revenue Bond Basics

Course Instructor: Bob Buhrlage, Bari Joslyn, Jack Bragg

Course Location: Main Office, Erlanger

Print Name	Signature	Hours Earned
Joe Koesten		1
Drew Collins		1
Fred A Mecke Jr		1
Douglas C. Wagner		1
Patricia Sommerkamp		1
Frank Jackson		1

Sponsor Name: Bari Joslyn

Date: 9/21/2006

Item Five:

Ms. Bari Joslyn, M.E.S
Mr. Bob Buhrlage, M.B.A.

Bio of the presenters attached

Bari Joslyn is the Vice President of Water Quality and Production at the Northern Kentucky Water District. She has a Bachelor's Degree in Biology from Northern Kentucky University and a Master's Degree in Environmental Science from the University of Cincinnati.

Bari has a Class IV water treatment plant operator's license and a Class IV distribution license from the Kentucky Department of Natural Resources.

Bari is a Past Chair of the KY-TN Section of AWWA and is currently the KY-TN Director. She is active in the Covington-Kenton County Kiwanis Club, serves on the Board of Trustees for the St. Elizabeth Medical Center and serves as Chair of the Northern Kentucky Mental Health and Mental Retardation Board.

Bari has been with the Northern Kentucky Water District since 1978.

BIO

Robert W. Buhrlage is the Human Resources Manger for the Northern Kentucky Water District. He has been there since 1998. He has been in Human Resource management for 25 years and Plant Management for 5years.

Robert has a B.A. in Psychology and MAIR (Master of Arts in Industrial Relations) from the University of Cincinnati. His is a certified Human Resource Professional with the Kentucky Public Human Resource Association.

Item Six:

Copy of Materials are attached

Continuing Ed
30 minutes

EMERGENCY RESPONSE PLAN (ERP)

NKWD Board Meeting Education

PRESENTATION OVERVIEW

- History
- Purpose
- Outline
- Plans
- Sample Plan
- Uses
- Next Steps

History

- Required by Public Health and Bioterrorism Act of 2002 (part of VA)
- Combined cost of VA and ERP: $175,000 (grant – $115,000)
- Added natural disasters
- Before ERP, each department = SOGs

Purpose

- Provides a single document that addresses planning and response to emergencies
- Establishes an emergency operations center
- Develops an emergency response team
- Provides a training program outline
- Provides contact lists for critical customers, media, local emergency responders, state and federal agencies, specialty contractors
- Establishes authority and chain of command

Plans

- Floods
- Tornadoes
- Earthquakes
- Ice
- Fire
- Explosion
- Power outage
- Natural gas leak
- Dam failure
- Entrapment rescue
- Chemical spill
- Ohio and licking river spill plan
- Bomb threat
- Security breach
- Water contamination

Sample Plan

- System-wide Power Failure
  - This is a level 4 (highest) emergency
  - Activate emergency operations center
  - Engage generators
  - Notify local emergency responders, KDOW, PSC, Health Department, press
  - Prepare to implement boil water advisory
  - Explore backup water supplies
  - Implement customer notification plan
  - Implement conservation plan

FIRST EMERGENCY TRAINING EVENT

July 2004

- Tabletop
- SEMC participation

Uses of ERP

- June 2004: security breach at Bromley
- March 2006: power outage in Campbell County

Next Steps

- Update manual
- Staff training
- Drills

Item Seven:

No.

Item One:

AWWA Teleconference
November 11, 2006
AT
Northern Kentucky Water District
2835 Crescent Springs Road
Erlanger, Kentucky 41018

Item Two:

Name: Fire Hydrant Operations and Maintenance

Sponsor: AWWA

Subject Matter: See Attached Sheets

Title: Fire Hydrant Operations and Maintenance

November 2, 2006

9:00 a.m. - 12:30 p.m. Pacific • 10:00 a.m. - 1:30 p.m. Mountain
11:00 a.m. - 2:30 p.m. Central • 12:00 Noon - 3:30 p.m. Eastern

All water systems use fire hydrants for fire protection. It is critical that they operate properly. This teleconference is a hands-on approach to the necessity of understanding hydrants and developing, implementing, and maintenance programs. Hydrant manufacturers will present features relating to the effective maintenance of their products, and an employee of a municipal water provider will review O&M program development and the importance of operations and maintenance of these vital system components.

Leaning Objectives

- Identify the components of a fire hydrant
- Contrast the differences in hydrants
- Describe the basic elements of maintenance
- Prepare a plan for hydrant maintenance

Who Should Attend

- Water Distribution Operators
- Supervisors
- Managers
- Safety Staff
- Finance Staff
- Purchasing Staff
- Consultants
- Fire Protection Consultants
- Manufacturers

Please contact your local AWWA section for registration information.

Take Advantage of This Outstanding Teleconference Opportunities

- Earn valuable continuing education credits (contact your section to learn how)
- Learn how your peers are tackling this important issue
- Ask questions of the teleconference panel of experts and have them answered live over the air

Get The Training You Need At A Location Close To Home
Are your company's training dollars limited? Then the AWWA Satellite Teleconference is the perfect solution to getting the valuable information and training hours you need! You'll not only be able to attend the teleconference at a reasonable cost, but you'll be able to attend at a location close to home or within driving distance.

Teleconference Agenda

- Welcome and Introductions
- Introduction of the Basics of Fire Hydrants
- Preventive Maintenance and Operation
- Case Study: Discussion of Agencies with Preventive Maintenance Programs Utilizing Fire Hydrants
- Panel Discussion
- Break
- Transition
- Corrective Maintenance Procedures for Fire Hydrants
- How-to Conduct Fire Flow Test Evaluations
- Q&A Session (Live Questions)
- Break

- Transition
- Fire Hydrant Placement and Insurance Grading Criteria
- Other Critical Fire Hydrant Issues
- Q&A Session (Live Questions)
- Call to Action - Final Panel Discussion
- Wrap
- Adjourn

Speaker Bios

Kenneth C. Morgan has extensive knowledge and experience in the water industry dating back to 1985 where he started with the Denver Water Department and spent fifteen years there in various capacities from engineering technician to District Supervisor to Civil Design Engineer III. Some of his many responsibilities during his tenure at Denver Water included overseeing the day-to-day activities of water distribution maintenance and construction crews, designing large diameter transmission mains, inspecting clear water reservoirs/pump stations/water conduits, and managing the department's Water Main Rehabilitation Program. Currently, he is the Operations Manager for Charlotte-Mecklenburg Utilities in Charlotte, North Carolina responsible for the training, development, and program management of combined water distribution and wastewater collection services utilizing the efforts of over two hundred and fifty people.

Ken is a trustee in the American Water Works Association's Distribution and Plant Operations Division and actively involved in the following committees: Distribution Operations and Maintenance, Water Main Rehabilitation, and Water Security. He has a Bachelor of Science degree in Civil Engineering from the University of Missouri-Rolla and is a Registered Professional Engineer in Colorado, Missouri and soon to be North Carolina.

Kanwal Oberoi is the Director of the Water Distribution Department, Charleston Water System, in Charleston, South Carolina. He has more than 20 years of experience in the operation and maintenance of state-of-the-art water treatment plants and water distribution systems in the United States and Canada. He has chaired the AWWA Water Treatment Plant and Distribution Committee and Distribution and Plants Operation Division for six years and currently is a Trustee for the AWWA Management Division, Accreditation Policy Committee and as well as being a member of the AWWA Standards Council. He is also a Project Advisory Committee member on various AWWARF projects. He is credited with developing unidirectional flushing techniques and he has led his utility to become first water utility in the nation to become ISO 14001 certified.

Gary Williams, is a certified trainer and an employee development specialist with Golden State Water Company (formerly Southern California Water Company), Employee Development University. Gary's experience culminates with over thirty years in the private water industry operations as a District Superintendent, Water Supply Superintendent, and as a Utility Coordinator and Special Project administrator for the Engineering and Planning department. Gary developes training material for distribution operators, implements approved training programs, and personally presents training material and multiple day course work. He leads the planning, development and implementation of the mandatory certification programs for water distribution operators; managed all aspects of customer service and distribution operations for two medium size distribution systems (20,000 + service connections); managed all water supply activities the same ensuring overall water supply operations for 42-plant facilities, 35-active wells, 16-booster stations, 10 purchased water connections, and 10+ MG of storage for seven (7) systems serving over 47, 000 service connections; and acted as utility coordinator for engineering department, assisting with various water design solutions, prepared detailed water supply studies and performed field investigations for the purpose of collecting data for water supply and distribution projects.

Edward F. Straw is Senior Technical Coordinator of the Public Protection Grading Unit for the Insurance Services Office, Inc. (ISO). Ed assists in the oversight of ISO's nationwide Fire Suppression Rating Schedule (FSRS) and Public Protection Classification (fire grading) activities. He is a contributing member to two National Fire Protection Association (NFPA) committees including "Forest & Rural Fire Protection" and "Public Emergency Service Communications" committees. Also, he is a contributing member to the American Water Works Association (AWWA) committee on Fire Hydrants. Ed holds a Bachelor of Science in Aviation Engineering Technology from Western Michigan University. He resides with his wife in Atlanta, Georgia and works for ISO's home office in Jersey City, NJ.

Copyright © 2006 American Water Works Association.

Item Three:

See enclosed sheets.

Title: Fire Hydrant Operations and Maintenance

November 2, 2006

9:00 a.m. - 12:30 p.m. Pacific • 10:00 a.m. - 1:30 p.m. Mountain
11:00 a.m. - 2:30 p.m. Central • 12:00 Noon - 3:30 p.m. Eastern

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- Break
- Transition
- Corrective Maintenance Procedures for Fire Hydrants
- How-to Conduct Fire Flow Test Evaluations
- Q&A Session (Live Questions)
- Break

- Transition
- Fire Hydrant Placement and Insurance Grading Criteria
- Other Critical Fire Hydrant Issues
- Q&A Session (Live Questions)
- Call to Action - Final Panel Discussion
- Wrap
- Adjourn

Speaker Bios

Kenneth C. Morgan has extensive knowledge and experience in the water industry dating back to 1985 where he started with the Denver Water Department and spent fifteen years there in various capacities from engineering technician to District Supervisor to Civil Design Engineer III. Some of his many responsibilities during his tenure at Denver Water included overseeing the day-to-day activities of water distribution maintenance and construction crews, designing large diameter transmission mains, inspecting clear water reservoirs/pump stations/water conduits, and managing the department's Water Main Rehabilitation Program. Currently, he is the Operations Manager for Charlotte-Mecklenburg Utilities in Charlotte, North Carolina responsible for the training, development, and program management of combined water distribution and wastewater collection services utilizing the efforts of over two hundred and fifty people.

Keri is a trustee in the American Water Works Association's Distribution and Plant Operations Division and actively involved in the following committees: Distribution Operations and Maintenance, Water Main Rehabilitation, and Water Security. He has a Bachelor of Science degree in Civil Engineering from the University of Missouri-Rolla and is a Registered Professional Engineer in Colorado, Missouri and soon to be North Carolina.

Kanwal Oberoi is the Director of the Water Distribution Department, Charleston Water System, in Charleston, South Carolina. He has more than 20 years of experience in the operation and maintenance of state-of-the-art water treatment plants and water distribution systems in the United States and Canada. He has chaired the AWWA Water Treatment Plant and Distribution Committee and Distribution and Plants Operation Division for six years and currently is a Trustee for the AWWA Management Division, Accreditation Policy Committee and as well as being a member of the AWWA Standards Council. He is also a Project Advisory Committee member on various AWWARF projects. He is credited with developing unidirectional flushing techniques and he has led his utility to become first water utility in the nation to become ISO 14001 certified.

Gary Williams, is a certified trainer and an employee development specialist with Golden State Water Company (formerly Southern California Water Company), Employee Development University. Gary's experience culminates with over thirty years in the private water industry operations as a District Superintendent, Water Supply Superintendent, and as a Utility Coordinator and Special Project administrator for the Engineering and Planning department. Gary developes training material for distribution operators, implements approved training programs, and personally presents training material and multiple day course work. He leads the planning, development and implementation of the mandatory certification programs for water distribution operators; managed all aspects of customer service and distribution operations for two medium size distribution systems (20,000 + service connections); managed all water supply activities the same ensuring overall water supply operations for 42-plant facilities, 35-active wells, 16-booster stations, 10 purchased water connections, and 10+ MG of storage for seven (7) systems serving over 47, 000 service connections; and acted as utility coordinator for engineering department, assisting with various water design solutions, prepared detailed water supply studies and performed field investigations for the purpose of collecting data for water supply and distribution projects.

Edward F. Straw is Senior Technical Coordinator of the Public Protection Grading Unit for the Insurance Services Office, Inc. (ISO). Ed assists in the oversight of ISO's nationwide Fire Suppression Rating Schedule (FSRS) and Public Protection Classification (fire grading) activities. He is a contributing member to two National Fire Protection Association (NFPA) committees including "Forest & Rural Fire Protection" and "Public Emergency Service Communications" committees. Also, he is a contributing member to the American Water Works Association (AWWA) committee on Fire Hydrants. Ed holds a Bachelor of Science in Aviation Engineering Technology from Western Michigan University. He resides with his wife in Atlanta, Georgia and works for ISO's home office in Jersey City, NJ.

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Item Four:

3 Credit Hours – Proposed.

Item Five:

See enclosed provided by AWWA

Bio of the presenter see attached

- Transition
- Fire Hydrant Placement and Insurance Grading Criteria
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- Q&A Session (Live Questions)
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Item Six:

NONE - Teleconference

Item Seven:

AWWA