Exhibit No.:
Issues: Main Failures, Residue Removal, Tank Painting, General Insurance, PSC Assessment, Miscellaneous Expenses
Witness: John P. Cassidy
Sponsoring Party: MoPSC Staff
Case No.: WR-91-361

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

ST. LOUIS COUNTY WATER COMPANY

CASE NO. WR-91-361

DIRECT TESTIMONY

OF

JOHN P. CASSIDY

FILED
OCT 4 - 1991
PUBLIC SERVICE COMMISSION

Jefferson City, Missouri
October, 1991

DIRECT TESTIMONY

OF

JOHN P. CASSIDY

ST. LOUIS COUNTY WATER COMPANY

CASE NO. WR-91-361

Q. Please state your name and business address.

A. John P. Cassidy, 906 Olive Street, Suite 330, St. Louis, Missouri 63101.

Q. By whom are you employed and in what capacity?

A. I am employed by the Missouri Public Service Commission (Commission) as a Regulatory Auditor.

Q. Please describe your educational background.

A. I graduated from Southeast Missouri State University, receiving a Bachelor of Science degree in Business Administration, with a double major in Marketing and Accounting in 1989 and 1990, respectively.

Q. What has been the nature of your duties while in the employ of this Commission?

A. Under the direction of the Manager of the Accounting Department, I have assisted with audits and examinations of the books and records of utility companies operating within the state of Missouri.

Q. Have you testified before this Commission previously?

A. Yes. I testified in Case Nos. WR-91-172 and SR-91-174, which involved the Missouri Cities Water Company.

Q. With reference to Case No. WR-91-361, have you made an investigation of the books and records of the St. Louis County Water Company (Company)?

A. Yes. With the assistance of other members of the Commission Staff (Staff), I participated in an investigation of the Company's operations.

Q. With reference to Case No. WR-91-361, what are your principal areas of responsibility?

A. I have four principal areas of responsibility: maintenance, general insurance, the Commission (PSC) assessment, and miscellaneous expenses. The maintenance area is composed of three additional areas which include main failures, residue removal and related disposal, and tank painting.

Q. What adjustments to the Staff's income statement are you sponsoring?

A. I am sponsoring adjustments S-12.D, S-13.D, S-13.E, S-16.D, S-16.E and S-16.F, as shown on Accounting Schedule 11, Adjustments to the Income Statement.

Q. Did the Staff investigate main failure repair expense during the test year?

A. Yes. The Staff performed an annualization and normalization of main failure repair expenses, and determined that no adjustment to test year expense was necessary.

Q. How did the Staff annualize and normalize expenses associated with main failure repairs?

A. The Staff annualized main failure repair expenses by taking a five year average of main break incidents for the twelve month periods ending May 31, 1987-91. Additionally, the Staff replaced the actual level of December, 1989 main failures of 988 occurrences with a two year average of main failures in December, 1988 and 1990, to remove the impact of what it believes to be an exceptionally abnormal event from the five year average.

The Staff began its analysis by acquiring a five year total of transmission and distribution main miles from the Company's monthly financial reports. The Staff also calculated a five year total of main failures. The Staff then divided this five year total of main miles by the five year total of main failures. This yielded a five year average of main failures per main mile. The Staff then calculated an average annual failure rate by multiplying this five year average of main failures per main mile by the test year main miles. Next, the Staff derived an average annual failure cost by taking the test year total booked cost of main failure repairs and dividing this by the test year number of failures. The adjustment was completed by developing a normalized cost, which was calculated by multiplying the average annual failure rate by the average annual cost, and comparing this normalized cost to the test year booked main failure cost. Based on the comparison, actual test year repair costs slightly exceeded normalized repair costs. However, due to materiality, the Staff is proposing that no adjustment be made to reduce the Company's main failure repair expense at this time.

Q. Has maintenance expense associated with transmission and distribution mains increased in the past year?

A. No. Maintenance expenses associated with transmission and distribution mains for test year ending May 31, 1991 were actually $429,834 lower than for the year ending May 31, 1990 (as was reported in the Company's monthly financial reports). This is explained by the exceptionally abnormal occurrence of 988 main failures in December, 1989.

Q. Why did the Staff exclude the December, 1989 main failures from its five year average?

A. Including the 988 main failures in the calculation would lead to the establishment of rates based upon an abnormal event. Obviously, this December, 1989 main failure amount is entirely beyond what is considered to be the normal occurrence (refer to Schedule 1 to this direct testimony). In fact, the December, 1989 total represents by far an all time record for the number of main break incidents occurring within any month in the Company's history. A five year average, in and of itself, will not provide sufficient normalization of the impact of such an extreme level of main breaks. Therefore, the Staff has replaced this anomaly with an average of the main failures occurring in December of 1988 and 1990 in order to avoid distortion of the five year average. This will lead to a more representative, or normalized, level of main failures. The resulting average of main failures for these two years in December is 212.

Q. What factors led to the excessively high number of main failures in December, 1989?

A. The Company indicated through its response to Staff Data Request No. 48 that the combined effect of five environmental factors would explain the exaggerated level of failures. This Staff Data Request response has been attached as Schedule 2 to my direct testimony. The five environmental factors are listed and then explained, in the following excerpt from the response:

1. Ambient Temperature
2. Water Temperature
3. Snow Cover
4. Cumulative Precipitation Prior to December
5. Soil Type in Company's Service Area

1. Ambient Temperature: The average atmospheric temperature for December, 1989 was 24.1 degrees Fahrenheit (F), compared to a range of average temperatures of 27.3 to 38.0 degrees F for the five year period 1985-1988 and 1990.

2. Water Temperature: The average temperature of the water entering the Company's distribution system for the last half of December, 1989 was 33 degrees F, compared to a range of average water temperatures from 38 to 40 degrees F for the five years 1985-1988 and 1990.

3. Snow Cover: There was no snow cover in December, 1989 to insulate the ground from very cold temperatures which allowed frost to penetrate to a depth of 30 to 36 inches.

4. & 5. Cumulative Precipitation Prior to December in Conjunction with Soil Type in Company's Service Area: The actual cumulative inches of rainfall for 1989 through November showed that moisture was almost three inches below normal. This deficiency in moisture resulted in very dry sub-soil conditions throughout the Company's service area. Because of the type of clay soil in St. Louis County, moisture affects the shrinkage characteristics of the soil which imparts irregular soil pressure loading on underground piping.

The combined effect of each of these environmental factors occurring simultaneously is believed to have resulted in the all time record number of main break incidents in December, 1989. Hence, it would be accurate to say that this was an exceptionally abnormal event which is not likely to recur in the future.

Q. Is the Company taking any steps to address the issue of main failure repairs?

A. Yes. The Company states in its 1992-1996 Five Year Plan, acquired by the Staff during its field work, that "During the last several years, the replacement of obsolete mains have been increased in an attempt to reduce main breaks and improve reliability of service to our customers." Additionally, the Company's Distribution Maintenance Department has instituted the installation of corrosion protection magnesium anodes on sections of the Company's underground mains exposed for repair of breaks caused by corrosion. All of these activities are being conducted in an effort to curtail future main failures.

Q. Please explain adjustment S-12.D.

A. The Company sets up an accrual on its books for an expected level of residue removal and disposal expense. In this case, the expected level of expense was not actually incurred in the test year, resulting in an over-accrual. This adjustment reflects the Staff's elimination of $48,525 from test year expense for the over-accrual of residue removal and disposal expenses. By eliminating this over-accrual, the Staff is recognizing the actual costs incurred that are associated with residue removal and disposal during the test year.

Q. Please explain adjustment S-13.D.

A. Adjustment S-13.D has two components. The first part represents the Staff's inclusion in cost of service of $5,388 for the additional leased circuits expense associated with the Company's new

Strecker Booster, which went into service in August, 1991. The Staff has also included $1,260 for additional mowing costs associated with the land surrounding the Strecker Booster. The total adjustment sums to $6,648.

Q. Please explain adjustment S-13.E.

A. This adjustment represents the Staff's normalization for interior and exterior tank painting expense. The Company indicates that the average exterior paint coating lasts approximately six years, while the average interior coating has a life of approximately 12 years. Based on this, the Staff obtained the historical cost or any contracted cost (if contracts had been signed) to paint the exteriors for all of the Company's tanks, and divided this total amount by six. However, for four tank exteriors, representative historical costs for painting were not available. To remedy this, the Staff calculated a 1991 average cost composite to paint one square foot of tank exterior, and multiplied this composite by the square footage for each of the four outstanding tanks. The Staff summed these costs and divided them by six, also. By adding these two pieces, the Staff has calculated a normalized annual level of exterior tank painting expense. The Staff has excluded the costs of two tanks that were capitalized during test year, as those costs are included in plant in service and are being recovered through depreciation expense.

The Staff then obtained the historical cost or any contracted cost to paint the interiors for all of the Company's tanks. However, for twelve tank interiors, representative historical

costs to paint were not available. Again, the Staff calculated a 1991 average cost composite. However, this composite represented the cost to paint one square foot of tank interior. The Staff multiplied this composite by the square footage for each of the twelve outstanding tanks. By summing all of these costs, the Staff derived the total cost of interior tank painting. This total cost was divided by twelve to compute a normalized annual level of interior tank painting expense.

The Staff completed the total normalized tank painting expense adjustment by summing the normalized levels for interior and exterior tank painting.

Q. What accounting treatment is the Staff proposing for the Company's interior tank painting?

A. The Staff still recommends that all initial tank coatings be capitalized. Regarding the appropriate method that the Company should utilize in recording subsequent interior tank painting expense, a Company study that was supplied to the Staff indicates that its interior tank coating systems are not lasting as long as the tanks they are being capitalized with. Therefore, the Staff recommends that subsequent interior tank painting costs should be charged directly to maintenance expense. This generally matches the current accounting treatment for exterior tank painting costs. The Staff will still perform a normalization analysis for this item for ratemaking purposes in future rate cases.

Q. What does adjustment S-16.D represent?

A. This adjustment represents the difference between the Staff's annualization of the Company's insurance expense and the booked test year insurance expense incurred by the Company. The net amount of this difference represents an increase of $103,189.

Q. How did the Staff annualize the Company's insurance?

A. The Staff took the current annual premium for each type of insurance and multiplied it by the appropriate operation and maintenance (O&M) allocation factor in order to derive an appropriate O&M premium. The Staff then summed the O&M premiums and subtracted booked test year insurance expense in order to complete the adjustment.

Q. Please explain adjustment S-16.E.

A. This adjustment represents the Staff's inclusion of $125,323 for the most recent PSC Assessment effective for the fiscal year July 1, 1991 to June 30, 1992.

Q. What does adjustment S-16.F represent?

A. Adjustment S-16.F was calculated in order to disallow certain miscellaneous expenses incurred by the Company during test year.

Q. Please explain the Staff's miscellaneous expense adjustment.

A. The Staff's adjustment for miscellaneous expenses is comprised of two components. The first component represents the Staff's disallowance of three out of seven of the Company's customer brochures. The Company indicated that only one brochure was initially sent out to customers with a quarterly billing. This

brochure contained a list of the other six brochures that customers could request. The customer could either call the Company and have one or all of the leaflets mailed, or they could fill out the request form and mail it back with their payment. However, the three customer brochures in question were disallowed by the Staff because they provided no direct benefit to the ratepayer. This disallowance totaled $5,172.

The second component of the miscellaneous expense adjustment consists of the Staff's disallowance of expenses that the Company recorded in four administrative and general accounts. These expenses were predominantly for the Company picnic, turkey certificates, charitable donations, tickets, dues and flowers to employees. Clearly, all of these expenses are of no direct benefit to ratepayers. This disallowance totaled $24,823. The final adjustment of $29,995 was reached by summing these two adjustments.

Q. Does this conclude your direct testimony at this time?

A. Yes, it does.

BEFORE THE PUBLIC SERVICE COMMISSION

OF THE STATE OF MISSOURI

In the matter of St. Louis County Water Company for authority to file tariffs to increase rates for water service provided to customers in the Missouri service area of the Company.	)))))	Case No. WR-91-361

AFFIDAVIT OF JOHN CASSIDY

STATE OF MISSOURI)
) ss
COUNTY OF COLE)

John Cassidy, of lawful age, on his oath states: that he has participated in the preparation of the foregoing direct testimony in question and answer form, consisting of 10 pages to be presented in the above case; that the answers in the foregoing direct testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true and correct to the best of his knowledge and belief.

John Cassidy
John Cassidy

Subscribed and sworn to before me this 3rd day of October, 1991.

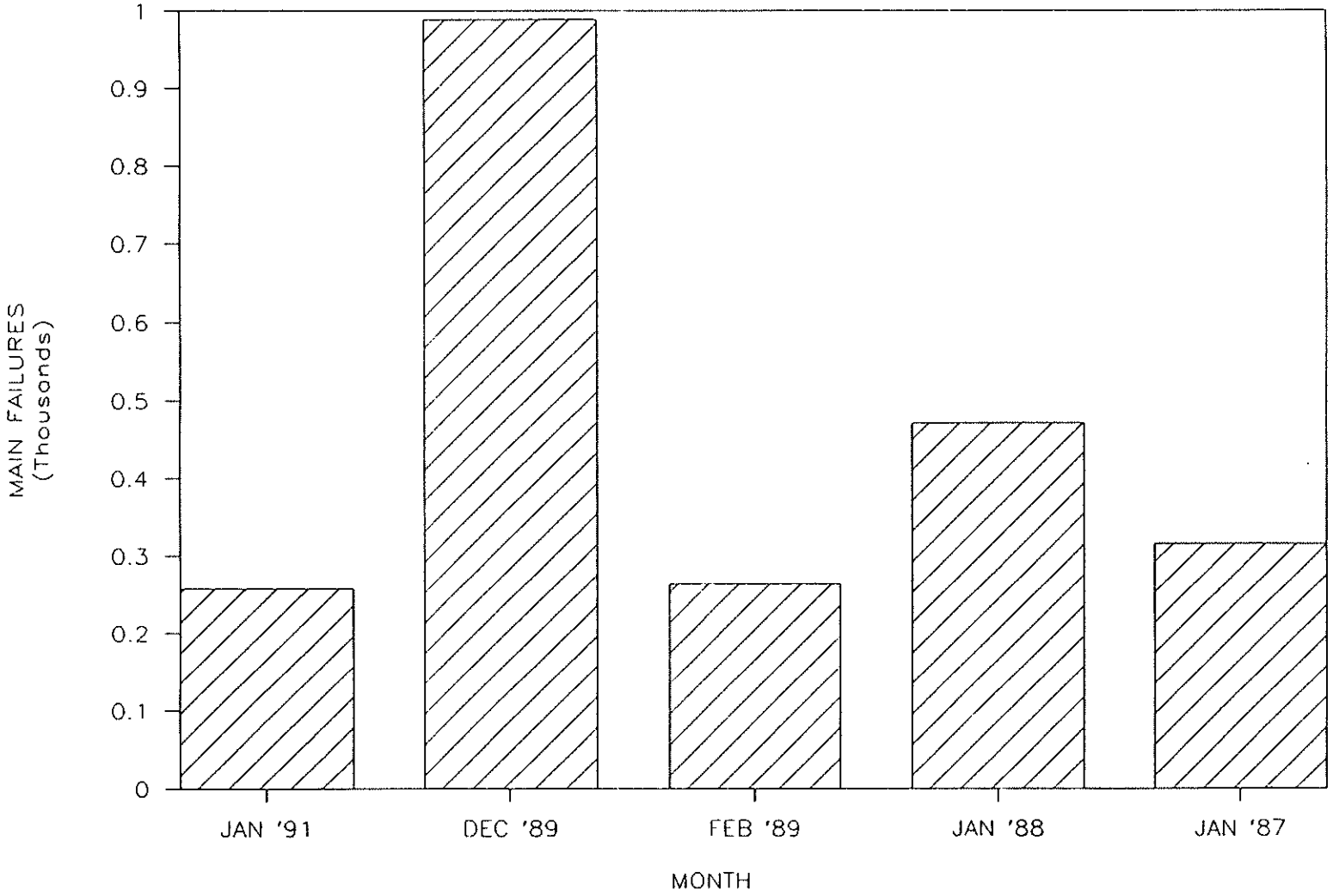
Wanda J. King
Notary Public

My Commission expires 9/4/95

OFFICIAL NOTARY SEAL
WANDA J KING
Notary Public State of Missouri
COLE COUNTY
My Commission Expires SEP 04,1995

5 HIGHEST MONTHLY MAIN FAILURE TOTALS

Period: Past Five Years



SCHEDULE 1

DATA INFORMATION REQUEST
St. Louis County Water Company
CASE NO. WR-91-361

Requested From: KENT TURNER
Date Requested: 07/17/91
Information Requested:
IN REFERENCE TO A. M. TINKEY'S DIRECT TESTIMONY, PAGE 19 AND SCHEDULE 5, PLEASE EXPLAIN THE DECLINE IN THE NUMBER OF INCIDENTS REGARDING DISTRIBUTION MAINS IN 1990. WHAT CHANGES IN ITS OPERATIONS HAS THE COMPANY INSTITUTED TO ADDRESS THE PROBLEMS OF AGING AND CORROSION ASSOCIATED WITH DISTRIBUTION MAIN REPAIRS? HOW MUCH AFFECT DOES WEATHER AND TEMPERATURE HAVE ON THE NUMBER OF REPAIR INCEDENTS?

Requested By: STEPHEN M. RACKERS

Information Provided: _____

The attached information provided to the Missouri Public Service Commission Staff in response to the above data information request is accurate and complete, and contains no material misrepresentations or omissions, based upon present facts of which the undersigned has knowledge, information or belief. The undersigned agrees to immediately inform the Missouri Public Service Commission Staff if, during the pendency of Case No. WR-91-361 before the Commission, any matters are discovered which would materially affect the accuracy or completeness of the attached information.

If these data are voluminous, please (1) identify the relevant documents and their location (2) make arrangements with requestor to have documents available for inspection in the St. Louis County Water Company office, or other location mutually agreeable. Where identification of a document is requested, briefly describe the document (e.g. book, letter, memorandum, report) and state the following information as applicable for the particular document: name, title, number, author, date of publication and publisher, addresses, date written, and the name and address of the person(s) having possession of the document. As used in this data request the term "document(s)" includes publication of any format, workpapers, letters, memoranda, notes, reports, analyses, computer analyses, test results, studies of data, recordings, transcriptions and printed, typed or written materials of every kind in your possession, custody or control within your knowledge. The pronoun "you" or "your" refers to St. Louis County Water Company and its employees, contractors, agents or others employed by or acting in its behalf.

Signed By: B. Kent Turner

Date Response Received: JPC 8/1/91

Prepared By: K.C Mueller + BK. Turner

Response to Staff Data Request No. 48:

1. Please explain the decline in the number of incidents regarding distribution mains in 1990.
2. What changes in its operations has the Company instituted to address the problems of aging and corrosion associated with distribution main repairs?
3. How much affect does weather and temperature have on the number of repair incidents?

o The answer to 1) and 3) are combined together:

The primary reason for the drop in the number of incidents in 1990 compared to 1989, was the excessively high number of break incidents in December of 1989.

Data:

(a) Average number of incidents for December for years 1985-1988 and 1990 is 210 (range 187 to 235).

(b) Number of break incidents for December 1989 was 999, or 789 incidents above the 5-year average.

(c) If the December 1989 incidents would have been equal to the average of 210, the total incidents for 1989 would have been in the range of 1903. This would have made the 1990 incidents of 1,982 an increase over 1989 rather than a decrease.

(d) The large number of incidents in December of 1989 is believed to be caused by a combination of several environmental factors, some of which are weather related. The environmental factors are:

Ambient temperature
Water temperature
Snow cover
Cumulative precipitation coming into December
Soil moisture
Soil type in Company's service area

(e) The average ambient temperature for December 1989 was 24.1°F, compared to a range of average temperatures of 27.3°F to 38.0°F for the five-year period 1985-1988 and 1990.

(f) The average temperature of the water entering the Company's distribution system for the last half of December 1989 was 33°F, compared to a range of average water temperatures from 38°F to 40°F for the five years 1985-1988 and 1990.

(g) There was no snow cover in December 1989 to insulate the ground from very cold temperatures which allowed frost to penetrate to a depth of 30-36".

(h) The actual cumulative inches of rainfall for 1989 through November showed that moisture was almost three inches below normal. This cumulative rainfall compared to a range of cumulative rainfall numbers from -0.77" to +15.35" for the five years 1985-1988 and 1990. This deficiency in moisture resulted in very dry sub-soil conditions throughout the Company's service area. Because of the type of clay soil in St. Louis County, moisture affects the shrinkage characteristics of the soil which imparts irregular soil pressure loading on underground piping.

(i) The combination of all of these environmental factors occurring simultaneously is believed to have resulted in an all time record number of monthly main break incidents in December 1989.

o Answer to part 2:

(a) Since 1983 the Company has speeded up the replacement of mains showing excessive main failures. The magnitude of this replacement program will be gradually increased and will continue in the future.

(b) Beginning in the second half of 1991, the Distribution Maintenance Department began installation of corrosion protection magnesium anodes on sections of the Company's underground mains exposed for repair of breaks caused by corrosion. This will be a standard ongoing procedure in the future.

(c) While these new practices have been put into effect, it will be some time before any results will be produced. The Company does not anticipate that main breaks and failures will vary from the currently increasing trend. However, it is hoped that over time these new practices will stabilize the number of breaks and failures.

St. Louis County Water Co.

Main Break Incidents By Month By Year

Month	1985	1986	1987	1988	1989	1990	1991	Average	
AUGUST	99	189	199	213	133	146		163	
Rain	3.66	2.22	5.56	2.31	3	2.84			
Nor.Precip	2.55	2.55	2.55	2.55	2.55	2.55			
Avg.Temp	74.7	74	78.9	82.7	77.8	77.9			
Nor.Temp.	77	77	77	77	77	77			
SEPT.	114	153	172	203	131	255		171	
Rain	0.43	7.99	1.62	1.99	1.69	0.78			
Nor.Precip	2.7	2.7	2.7	2.7	2.7	2.7			
Avg.Temp	70.9	73.3	70.5	72.5	67.4	74.1			
Nor.Temp.	69.7	69.7	69.7	69.7	69.7	69.7			
OCT.	135	96	175	212	158	153		155	
Rain	1.96	5.34	1.74	1.86	0.95	4.96			
Nor.Precip	2.32	2.32	2.32	2.32	2.32	2.32			
Avg.Temp	61.4	58.3	53.8	53.9	61.3	58.1			
Nor.Temp.	57.9	57.9	57.9	57.9	57.9	57.9			
NOV.	105	128	133	196	179	118		143	
Rain	9.95	1.58	4.09	6.65	1.59	3.36			
Nor.Precip	2.53	2.53	2.53	2.53	2.53	2.53			
Avg.Temp	46.5	41.5	49.1	47.2	47.1	52.7			
Nor.Temp.	44.6	44.6	44.6	44.6	44.6	44.6			
DEC.	235	188	187	206	999	233		341	210 EXCLUD. 1984
WaterTemp.	38	-	39	40	33	38			
In.Of Snow	5.70					13.20			
Eq."OfRain	3.69					6.52			
Rain		1.06	7.46	3.24	1.69				
Nor.Precip	2.22	2.22	2.22	2.22	2.22	2.22			
Avg.Temp	27.3	35.4	38	37.2	24.1	34.7			
Nor.Temp.	34.2	34.2	34.2	34.2	34.2	34.2			
Totals	1620	1589	1958	2331	2692	1982	872		
Cum.Precip:									
Thru Aug.									
Actual	34.70	18.91	23.47	20.19	24.68	29.47	10.78		
Normal	24.14	24.14	24.14	24.14	24.14	24.14	17.96		
Diff.	8.29	0.06	-1.75	-4.66	-0.47	3.41	-7.18		
Thru Sept.									
Actual	35.13	26.90	25.09	22.18	26.37	30.25	10.78		
Normal	26.84	26.84	26.84	26.84	26.84	26.84	17.96		
Diff.	8.29	0.06	-1.75	-4.66	-0.47	3.41	-7.18		
Thru Oct.									
Actual	37.09	32.24	26.83	24.04	27.32	35.21	10.78		
Normal	29.16	29.16	29.16	29.16	29.16	29.16	17.96		
Diff.	7.93	3.08	-2.33	-5.12	-1.84	6.05	-7.18		
Thru Nov.									
Actual	47.04	33.82	30.92	30.69	28.91	38.57	10.78		
Normal	31.69	31.69	31.69	31.69	31.69	31.69	17.96		
Diff.	15.35	2.13	-0.77	-1.00	-2.78	6.88	-7.18		
Thru Dec.									
Actual	50.73	34.88	38.38	30.69	28.91	45.09	10.78		
Normal	33.91	33.91	33.91	33.91	33.91	33.91	17.96		
Diff.	16.82	0.97	4.47	-3.22	-5.00	11.18	-7.18		

WATER TEMPERATURE

BY YEAR BY DATE

(Measured at Central Plant Electric Station)

	1985		1986			1987				1988				1989				1990				1991		
DATE	NOV	DEC	JAN	FEB	MAR	JAN	FEB	MAR	DEC	JAN	FEB	MAR	DEC	JAN	FEB	MAR	DEC	JAN	FEB	MAR	DEC	JAN	FEB	MAR
1		43	37	35	44	35	37	39	46	38	40	43	46	39		40	45	36	45	41	52	33	35	45
2		45	37	34	43	35	39	40	44	37	39	44	45	39	45	40	45	38	45	43	51	33	37	46
3		44	37	35	45	36	41	42	44	37	40	44	45	39	43	42	41	36	44	43	50	33	37	44
4		43	38	37	45	36	42	42	45	37	38	41	45	39	39	41	40	37	44	44	46	33	39	43
5		42	37	38	45	36	44	40	43	36	36	41	45	40	36	42	42	37	43	46	45	33	38	44
6		42	37	38	47	34	45	41	43	33	34	42	45	40	34	38	44	39	43	47	45	33	40	45
7		42	39	39	48	34	45	45	43	34	34	43	45	41	34	36	42	39	43	48	43	33	40	45
8		41	38	40	48	33	42	42	44	34	34	45	45	41	35	37	41	38	44	47	43	34	40	45
9		41	38	40	48	33	41	43	45	34	34	45	44	40	34	38	39	39	47	49	43	36	41	46
10	55	41	37	41	45	33	37	47	45	34	34	44	42	40	35	41	40	39	45	52	44	36	40	45
11	54	39	37	42	45	33	35		45	34	36	45	42	40	35	42	40	40	46	52	44	36	40	46
12	52	39	36	42	46	34	35		45	34	34	47	40	41	35	44	38	39	47	54	45	36	40	47
13	48	39	37	42	47	34	34		46	34	34	45	40	40	35	45	37	39	48	57	46	36	41	48
14	47	39	38	43	48	35	35		45	34	34	43	40	39	35	46	36	39	47	59	45	37	41	47
15	48	39	39	44	50	35	35		41	34	34	43	40	39	35	47	35	40	47	60	45	37	38	47
16	47	39	38	41	49	36	34		40	34	34	42	39	41	35	48	34	42	46	58	45	37	35	48
17	47	40	37			38	35		39	35	35	43	39	39	36	50	34	43	45	57	44	37	36	49
18	47	39	37			39	37		40	36	35	43	40	42	35	49	34	44	43	56	44	37	38	50
19	47	39	36			39	38		39	35	35	42	38	41	37	46	33	43	44	53	44	38	41	50
20	46	38	36	43		38	37		40	36	35	44	41	41	38	47	33	43	43	53	44	38	41	51
21	45	39	36	39		40	36		40	35	36	46	42	40	37	45	33	43	44	53	44	36	42	53
22	45	39	36	40		40	36		40	37	36	47	42	40	37	44	33	46	45	54	41	36	44	55
23	45	39	36	42		38	37		40	36	39	49	43	41	36	45	34	44	44	53	37	36	43	55
24	45	39	35	43		38	37		41	36	39	52	42	41	36	47	34	45	43	48	35	36	43	55
25	44	39	34	43		39	37		41	36	39	54	42	42	37	48	34	45	41	49	35	36	42	56
26	44	39	34	43		38	39		40	33	39	52	41	44	38	50	33	43	41	50	35	36	41	58
27	44	38	34	45		36	39		40	34	40	53	42	43	39	52	35	44	42	50	35	36	41	61
28	43	38	34	43		34	39		40	36	41	53	40	43	39	55	34	44	42	50	34	35	43	58
29	43	39	34			35			40	38	42	55	39	45	38	56	34	43		50	34	34		58
30	43	38	34			36			40	37		53	39	43		56	34	46		51	34	33		54
31		37	34			36			39	40		54	39	45		56	35	45		50	33	34		54
	46	38	36	40	46	36	38	42	39	35	36	46	40	40	36	45	33	41	44	50	38	35	39	49

NOTE: Average for December is 16th through 31st