

Exhibit No.:
Issue: Service area, expenses,
rate design, tariff rules
Witness: Martin Hummel
Sponsoring Party: MPSC Staff
Type of Exhibit: Rebuttal Testimony
Company: Four Seasons Lakesites
Water and Sewer Company
Case No.: WA-95-164

MISSOURI PUBLIC SERVICE COMMISSION
UTILITY OPERATIONS DIVISION

REBUTTAL TESTIMONY

OF

MARTIN HUMMEL

FILED

MAR 24 1995

MISSOURI
PUBLIC SERVICE COMMISSION

FOUR SEASONS LAKESITES WATER AND SEWER COMPANY

CASE NO. WA-95-164

Jefferson City, Missouri
March, 1995

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REBUTTAL TESTIMONY

OF

MARTIN HUMMEL

CASE NO. WA-95-164

FOUR SEASONS LAKESITES WATER & SEWER COMPANY

Q. Please state your name and business address.

A. My name is Martin Hummel, and my business address is 301 West High Street, Jefferson City, Missouri 65101.

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

A. I am employed by the Missouri Public Service Commission (Commission) as an Engineer with the Water and Sewer Department.

Q. How long have you been employed by the Commission?

A. Since February, 1989.

Q. What is your educational background?

A. I received a Bachelor of Science degree in Education-Science and a Bachelor of Science degree in Engineering from the University of Missouri-Columbia.

Q. What is your employment experience?

A. Prior to my employment at the Commission, I worked with the Missouri Department of Natural Resources (DNR) in the Water Pollution Control Program for two years; I worked as a Research Associate on water related projects with Louisiana State University-Baton Rouge for two years; and I was employed by a consulting engineering firm as Project Engineer primarily on wastewater treatment projects for three years.

Rebuttal Testimony of
Martin Hummel

1 Q. What is the purpose of your testimony?

2 A. The purpose of this testimony is to respond to
3 Four Seasons Lakesites Water and Sewer Company (FSWS)
4 witness Douglas Bowden's direct testimony and the
5 feasibility study FSWS has filed in this case to support its
6 application to provide water and sewer service in a portion
7 of Camden County. More specifically, I wish to address
8 requested service area, estimated operating expenses, rates,
9 and connection charges.

10 Q. Have you reviewed the feasibility study?

11 A. Yes.

12 Q. What service area was requested area by FSWS?

13 A. The area requested is the eastern end of the
14 Shawnee Bend Peninsula at the Lake of the Ozarks, which is
15 part of an area known as Jasper Township in Camden County.

16 Q. What is the size of the requested area?

17 A. Roughly 3,600 acres.

18 Q. Is there a need for water and sewer service?

19 A. Yes. In Grand Point subdivision, the developer,
20 Four Seasons Lakesites, Inc. has planned a total of 400 lots
21 and approximately 36 homes are expected by 1997.

22 Q. Has FSWS shown in the feasibility study how it
23 will provide service to the requested area?

24 A. Not for a large part of it. The facility plans
25 submitted by FSWS are for Grand Point subdivision only.
26 These plans may cover roughly 300 of the requested 3600
27 acres, or approximately 1/12 of the requested area as

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Martin Hummel**

1 estimated from plans and a map. This planned area lies in
2 Sections 34 and 35, T 40 N, R 16 W, and Section 3, T 39 N,
3 R 16 W, of Camden County.

4 Q. Is the requested area contiguous with FSWS's
5 existing certificated area?

6 A. No. It is separated by the Lake of The Ozarks.

7 Q. Are there developments in the requested area other
8 than Grand Point?

9 A. Yes. Though the rest of the requested area is
10 largely undeveloped, there is an area known as Shawnee Bend
11 #5 which includes the Cimarron Bay development, Evergreen
12 Condominiums and a number of individual residences. The
13 developed portion of Shawnee Bend #5 is a little more than
14 a mile from Grand Point. Most of what is developed is along
15 the lake shore.

16 Q. What facility plans has FSWS presented for the
17 provision of water and sewer service at these other
18 developments?

19 A. No plans have been presented for these other
20 developments, and, as I understand, none have been prepared.

21 Q. Have areas other than Grand Point subdivision been
22 included in the feasibility or business plans submitted to
23 the Commission Staff (Staff)?

24 A. No.

25 Q. Would you describe the sewer system planned for
26 the Grand Point area?

27 A. The proposed system consists of pressure

**Rebuttal Testimony of
Martin Hummel**

1 collecting sewers using a septic tank and effluent pump at
2 each home, lift stations, force mains and a treatment plant.
3 The treatment plant location is uphill from most of the
4 houses, which is why lift stations and pressure sewers are
5 proposed. Initially, the treatment plant will be a lagoon,
6 but ultimately a mechanical treatment plant is planned.

7 Q. Would you describe the water system planned for
8 the Grand Point area?

9 A. Potable water will be delivered to homes through
10 a pipeline distribution system. The source of the water is
11 a single State-approved well. Initially, a single ground-
12 level pressure tank will be used as storage. Although FSWS
13 has not addressed water plant necessary for the ultimate
14 development, it is my opinion that as development occurs
15 additional storage and possibly a second well will be
16 needed.

17 Q. What is your recommendation on what area should be
18 included in a certificated area in this case?

19 A. I recommend that only the Grand Point area be
20 included in a certificated area at this time, as that is the
21 only area for which there are facility or business plans.

22 Q. Has FSWS addressed the issue of inspection and
23 maintenance of the septic tanks and effluent pumps?

24 A. No. However, it is important because this matter
25 impacts rates to be charged and the service provided.

26 Q. How should the septic tanks and effluent pumps be
27 managed?

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Martin Hummel**

1 A. In my opinion, although the customer would install
2 and own the septic tank, FSWS should have the responsibility
3 for the inspection of the tank, maintenance and repair of
4 the pump; and, the hauling and disposal of septic tank
5 solids. It is more practical for the utility to maintain
6 the mechanical equipment. FSWS can also assure parts
7 availability by specifying the pump units to be utilized.
8 This is consistent with the Commissions Water and Sewer
9 Department's recommendations to any utility utilizing
10 individual pump units as part of its sewage collection
11 system.

12 Q. Has FSWS submitted adequate cost data for rate
13 design?

14 A. No. As an example, the FSWS income statement
15 shows Operation & Maintenance (O&M) Expense without any
16 explanation of what specific amount or type of expense is
17 included. The O&M expenses are shown to increase with
18 customer growth according to a fixed percentage per
19 customer, which is not realistic. For example, the cost for
20 routine checks on the well do not increase with the addition
21 of ten more customers. Also, the information from FSWS does
22 not show a clear picture of plant investment and O&M costs
23 that are expected to apply to a particular time and number
24 of customers.

25 Q. How does this affect the Staff's approach to rate
26 design?

27 A. If the Staff is to evaluate and recommend a rate

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Martin Hummel**

1 we must base our analysis on general water and sewer
2 industry data and Staff experience with the cost of
3 providing service.

4 Q. Do you have a rate to recommend for the provision
5 of water service in this case?

6 A. Yes, I recommend the following residential rate
7 for water service in this case:

8 \$10.90 minimum plus \$2.03 per thousand gallons over
9 3000 gallons, which results in an expected average bill
10 of \$16.99 per month for 6000 gallons.

11 A more detailed description of this recommended rate is
12 shown on the attached Schedule 1.

13 Q. Do you have a rate to recommend for the provision
14 of sewer service in this case?

15 A. Yes. In my opinion, existing rates applicable to
16 FSWS's present service area are not adequate for the
17 proposed area. I recommend a flat \$20.70 per month rate for
18 residential sewer service. A more detailed description of
19 this recommended rate is shown on the attached Schedule 2.

20 Q. Has FSWS proposed any connection fees and do you
21 have a recommendation on connection fees?

22 A. FSWS has proposed a \$450 charge for a water
23 connection and meter installation and, a \$250 charge for a
24 sewer connection. Normally, the Staff expects these charges
25 to simply cover the average cost of the connection. FSWS
26 has not provided any information on the component costs
27 involved in making connections. It is my opinion, based on
28 experience with other utilities, that a \$400 water

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1 connection fee is adequate to cover the cost of the complete
2 meter installation and the connection to the main. On the
3 sewer, I recommend a \$150 connection charge which is the
4 same amount presently in FSWS's current sewer tariff. In
5 any event these charges should be adjusted in the future
6 based on actual costs.

7 I would like to point out that in the Addendum To
8 Contract For Sale of Lots In Grand Point Subdivision, page
9 2, (Schedule 3 attached) it appears that lot buyers are
10 being told that there will be no additional sewer connection
11 charge. This document was received from FSWS witness
12 Douglas Bowden as part of his response to my request for
13 information showing what lot buyers/prospective customers
14 have agreed to regarding utility availability.

15 Q. Are there any other recommendations you wish to
16 make?

17 A. Yes. I recommend depreciation schedules (attached
18 as Schedules 3 and 4) be approved. FSWS does not have
19 depreciation schedules at the present time. These schedules
20 were developed by the Commission's Depreciation Department.

21 I recommend that there be an 18 month review of the
22 approved rates for water and sewer service since the
23 recommended rates are designed on estimated, not actual,
24 cost.

25 I recommend that FSWS file a water tariff, and amend
26 its existing sewer tariff to include this service area and
27 to include residential flat rates for this service area.

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1 I also recommend that FSWS's tariff include rules
2 providing that FSWS maintain and repair the septic tank
3 effluent pumps; and, haul and dispose of septic tank solids.

4 Q. Would you summarize your recommendations?

5 A. Yes. I recommend the following:

- 6 1. That the Commission grant a Certificate to provide
7 water service, and authorize expansion of the sewer
8 service area to include only the Grand Point area.
- 9 2. That water and sewer rates according to Schedules 1
10 and 2, attached, be approved for the Grand Point area.
- 11 3. That connection charges of \$400 for water and \$150 for
12 sewer be approved.
- 13 4. That the attached depreciation schedules be approved.
- 14 5. That FSWS file rules in its sewer tariff providing
15 that FSWS will maintain and repair the septic tank
16 effluent pumps; and, to haul and dispose of septic
17 tank solids.
- 18 6. That FSWS file a complete water tariff, and modify its
19 sewer tariff appropriate for the above recommendations
20 and the Certificate become effective on the effective
21 date of approved tariffs.
- 22 7. That the Commission order an 18 month rate review by
23 the Staff.

24 Q. Does this conclude your testimony?

25 A. Yes.

(explanatory
(notes)

Customer base used = 100 residences(equivalent)
 \$75,000 Rate base \$750 rate base/customer
 49.8% equity and 50.2% debt 1
 6,000 gallons per month customer usage
 7,200 thousand gallons per year total use

EXPENSE ITEM		CUSTOMER	COMMODITY	TOTAL	
Return on equity @	12.00%	0	4,482	4,482	1
Interest on debt @	10.73%	0	4,040	4,040	1
Depreciation @	3.00%	0	2,250	2,250	7
Management/customer response		2,000	0	2,000	2
Billing and records		600	0	600	3
Operator-time and equip.		1,200	1,200	2,400	5
Routine replacmt.& maint. of plant		0	500	500	6
Lab services		80	0	80	4
Well:					
electricity		0	1,099	1,099	10
chemicals		0	0	0	
Office rent		360	0	360	
Office electric and water		360	0	360	
Postage		269	0	269	
Phone/answer service		100	0	100	
Insurance		0	50	50	
Professional Services		600	0	800	8
Income Tax	0.18	0	807	807	
P.S.C. Assessment		0	192	192	9
TOTAL (annual expenses)		\$5,769	\$14,620	\$20,197	

RATE CALCULATION				
Customer charge:	\$5,769 / (12mo. X	100) =		\$4.81
Commodity Charge:	\$14,620 /	7,200 =		\$2.03
(per thousand gallons)				

METERED RATES FOR WATER SERVICE		
Minimum Charge:		
5/8 inch meter (to include 3000 gal/month)		\$10.90
3/4 inch meter (to include 4500 gal/month)		\$13.95
1 inch meter (to include 7500 gal/month)		\$20.04
Commodity Charge,	per thousand gallons over minimum	\$2.03

Water bill for 6,000 gallon per month residential use= \$16.99 per month

- Explanatory notes

1. Investment in well & storage. Debt/equity and rates from Financial Analysis Dept.
2. A nominal amount, future review expected.
3. Represent an estimate of \$.50/bill , postage not included.
4. \$80 for annual DNR bacteriological tests.
5. \$200 per month, 8-12 visits.
6. Includes a cost for maintaining nondepreciable contributed plant.
7. Based on estimates, as actual costs were not available.
8. On-going, excluding startup, for accounting, engineering and legal services.
9. Estimate... current assessment rate times total expenses.
10. Comparison Estimate...\$1756/year from:
 7000gal/mo/cust, \$.07/kwh, .36 efficiency, 250' Total Head

Rate Base: Customer base used = 100 residences(equivalent) (explanatory)
\$40,500 Rate base \$405 rate base/customer (notes)
49.8% equity and 50.2% debt 1

EXPENSE ITEM		AMOUNT	
Return on equity	12.0%	2,420	2
Interest on debt	10.7%	2,182	2
Depreciation	4.5%	1,823	
Management/customer response expense		2,300	4
Billing and records		300	3
Operator-time and equip.		3,600	5
Lab services		480	6
Plant:			
routine maintenance		595	8
electricity		907	13
chemicals		0	
STEP maintenance	inspection	2,500	
	septic tank pumping	1,250	7
	replacement parts	2,500	
Lift Station Electricity		600	
Office rent		360	
Office electric and water		360	
Postage		192	
Phone/answer service		150	
Insurance		50	
Professional Services		800	10
Income Tax	0.18 of equity return	436	
P.S.C. Assessment		1,030	12
TOTAL ANNUAL EXPENSES		\$24,834	

Residential flat rate: \$20.70 /month

- Explanatory notes

1. Estimated design capacity, if aeration is added to lagoon.
2. Debt/equity ratio and returns from Financial Analysis Dept.
3. Represents an estimate of \$.50/bill, postage not included.
4. Estimate of management time necessary
5. Estimate of operations cost.
6. (BOD,SS,pH,flow) X 1 outfall X 12months.
7. Estimated cost of \$100/1000gal for hauling and disposal.
8. Estimate of maintaining sewer utility plant.
10. On-going expenses, excluding startup, for accounting, engineering and legal services.
12. Estimate; current PSC factor times the total expenses.
13. Based on time and hp data.
estimate i.e.\$.07/kwh,3hp,18hrs./day : \$1380/yr.

ADDENDUM TO CONTRACT FOR THE SALE
OF LOTS IN GRAND POINT SUBDIVISION

This Addendum is made this ____ day of _____, 199__, to the contract for purchase of lot ____ in Grand Point Subdivision, Camden County, Missouri, by and between Four Season Lakesites, Inc., a Missouri corporation, hereinafter referred to as FSL, and _____,

hereinafter referred to as Purchasers, to-wit:

Sewage treatment in Grand Point shall be provided as follows:

1. All residences constructed must provide an NSF Class I treatment plant, a 500 gallon wet well holding tank and a lift pump and piping to extend from the residence to the main connection at the road. This installation shall be the cost of the Purchasers. The cost is estimated to be from \$4,000.00 to \$4,500.00.
2. The holding tanks shall be pumped periodically and the residue removed by truck until such time as underground central sewers are completed. The date for the construction of underground central sewers cannot yet be determined since they are not currently required until residences have been constructed on thirty percent (30%) of the projected four hundred (400) lots in the Grand Point Subdivision.
3. Prior to the availability of underground central sewers, owners of lots with residences shall be charged a monthly fee of \$45.00 per lot for periodic pumping of holding tanks, minor routine maintenance and service. The monthly fee for undeveloped

lots shall be \$15.00 per month per lot. When the underground central sewer system is available to the Purchaser's lot, the monthly fee will then be used for construction, operation, maintenance and eventual hook up to the underground central sewer system. This fee shall not exceed \$45.00 per month per lot for lots with residences on them, and \$15.00 per month per lot for undeveloped lots. No separate hook up fee to connect to the underground central sewer system shall be charged.

4. The terms of this Addendum supersede any statements in the Water and Sewer Agreement, Acquisition Agreement or any disclosure document provided to Purchaser relative to the lot hereinabove described.

FOUR SEASONS LAKESITES, INC.

BY: _____
DATE

PURCHASERS:

DATE

DATE

DATE

DATE

DEPRECIATION RATES FOR
FOUR SEASONS LAKESITES WATER & SEWER COMPANY
(WATER)

PSC DEPRECIATION DEPARTMENT

CASE NO. WA-95-164

<u>Acct. No.</u>	<u>Description of Account</u>	<u>Annual Rate Percent</u>
311	Structures & Improvements	2.5%
312	Collecting & Impounding Reservoirs	2.0%
314	Wells & Springs	2.0%
316	Supply Mains	2.0%
317	Other Water Source Plant	2.0%
321	Structures & Improvements	2.5%
323	Other Power Production Equipment	4.0%
325	Electric Pumping Equipment	10.0%
326	Diesel Pumping Equipment (35 yr, +5% salv)	2.7%
327	Hydraulic Pumping Equipment	2.5%
328	Other Pumping Equipment	5.0%
331	Structures & Improvements	2.5%
332	Water Treatment Equipment	2.9%
341	Structures & Improvements	2.5%
342	Distribution Reservoirs & Standpipes	2.5%
343	Transmission & Distribution Mains	2.0%
344	Fire Mains	2.0%
345	Services	2.9%
346.1	Meters - Bronze Chamber (35 yr, +5% salv)	2.7%
346.2	Meters - Plastic Chamber	10.0%
347	Meter Installations	2.9%
348	Hydrants	2.5%
349	Other Transmission & Distribution Plant	3.3%
390	Structures & Improvements	2.9%
391	Office Furniture & Equipment	5.0%
392	Transportation Equipment (7 yr, +10% salv)	13.0%
393	Stores Equipment	4.0%
394	Tools, Shop, Garage Equipment	5.0%
395	Laboratory Equipment	5.0%
396	Power Operated Equipment	6.7%
397	Communication Equipment	6.7%
398	Miscellaneous Equipment	5.0%

SCHEDULE 4

**DEPRECIATION RATES FOR
FOUR SEASONS LAKESITES WATER & SEWER COMPANY
(SEWER)**

PSC DEPRECIATION DEPARTMENT

CASE NO. WA-95-164

Acct. No.	Description of Account	Annual Rate Percent
311	Structures & Improvements	3.0%
352.1	Collection Sewers (Force)	2.0%
352.2	Collection Sewers (Gravity)	2.0%
353	Other Collection Plant	4.0%
354	Services to Customers	2.0%
355	Flow Measurement Devices	3.3%
362	Receiving Wells & Pump Pits	5.0%
363	Pumping Equipment	10.0%
372	Oxidation Lagoons	4.0%
373	Treatment & Disposal Facilities	4.5%
374	Plant Sewers	4.5%
375	Outfall Sewers	2.0%
376	Other Treatment & Disposal Plan	5.0%
391	Office Furniture & Equipment	5.0%
392	Transportation Equipment	14.2%
393	Other General Equipment	10.0%
394	Tools, Shop, Garage Equipment	5.0%
395	Laboratory Equipment	5.0%
396	Power Operated Equipment	6.7%
397	Communication Equipment	6.7%
398	Miscellaneous Equipment	5.0%

SCHEDULE 5

BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF MISSOURI

In the matter of the application of)
Four Seasons Lakesites Water and Sewer)
Company for a certificate of convenience)
and necessity authorizing it to construct)
install, own, operate, control, manage)
and maintain water and sewer utility)
properties for the public, located in)
an unincorporated area in Camden County,)
Missouri, generally comprising the)
eastern half of the area known as)
"Shawnee Bend".)

Case No. WA-95-164

AFFIDAVIT OF MARTIN HUMMEL

FILED

MAR 24 1995

MISSOURI
PUBLIC SERVICE COMMISSION

STATE OF MISSOURI)
COUNTY OF COLE) SS

Martin Hummel, of lawful age, on his oath states: that he has participated in the preparation of the direct testimony in question and answer form consisting of 8 pages to be presented in the above case; that the answers in the attached written testimony were given by him; that he has knowledge of the matters set forth in such answers; and that such matters are true to the best of his knowledge and belief.

Martin Hummel
Martin Hummel

Subscribed and sworn to before me this 23rd day of March, 1995.

Judy Eritsch
JUDY ERITSCH
NOTARY PUBLIC STATE OF MISSOURI
COLE COUNTY
MY COMMISSION EXP. SEPT 22, 1997

My Commission expires _____