Request No. AG-4-3 (Gas)

Please provide all workpapers generated by Mr. Aikman in the preparation of this depreciation study.

Response:

Attachment AG-4-3(Gas) is 32 pages of workpapers. These are workpapers not provided in other AG Set 4 (Gas) responses nor any previous responses to AG nor DTE requests.

Person Responsible: James H. Aikman

FITCHBURG GAS & ELECTRIC

DEPRECIATION STUDY INFORMATION REQUEST

Management Applications Consulting, Inc. (MAC)

GAS PROPERTIES

I. PRODUCTION PLANT

Are there any plans or long-range forecasts to retire the LNG or the LPG plant? If not, what is your estimate of how many more years each will likely be kept in service. We are NOT asking for a commitment, just an informed estimate.

Response: No retirement plans exist at this time. We do not have an exact estimate for how long these plants are likely to remain in service. We have planning studies that look out for the next 10 years and these plants are forecast to remain operational.

Are there plans or forecasts to retire or retire and replace any significant components of either plant?

Response: Yes. The following projects are planned:

Y2002 – LPGA plant electric system

Y2002 – LPGA plant roof

Y2003 – LPGA plant compressors

Y2003 – LPGA plant odorant tank

Y2003 – LPGA plant specific gravity meter

Y2003 – LPGA plant control system

Y2003 – LPGA plant orifice meter

Do you have demolition cost estimates for either plant?

Response: No.

We need first-hand input as to any events or proposed events which could impact the life and cost to retire those facilities.

Response: We are not aware of any specific events or proposed events at this time.

II. DISTRIBUTION FACILITIES

A. 1. Please identify and describe any buildings likely to be retired and/or replaced within the next ten years. Whenever retired, is it likely the company will raze the structures, sell them, or sell the sites including the structures?

Response: None planned within the next ten year planning horizon.

2. Do you expect your Distribution Plant retirements of the next ten to twenty years to be significantly higher or lower than those of the past ten to twenty years? If so, why?

Response: Slightly hirer. In 2001 we increased the amount of Cast Iron pipe replaced annually from 3960 feet to 10560 feet. This higher rate is projected to continue into the foreseeable future.

B. 1. In regard to mains, is there a partial or total replacement program completed, underway, or planned? If completed, over what span of years did it take place and when was it completed? If underway, when did it begin and what are the estimated annual amounts to be retired over what period? If planned, over what period, and what are the estimated annual retirements?

I think C.I. repl. is LTD to ≤6" ϕ

FGG has ~371,000 ft. of ≤6" ϕ C.I.

∴ Maybe ±35 yr.

Response: We have been following a Cast Iron main replacement program since the early 1980s. The program initially started with a replacement rate of no less than 3960 feet per year. In 2001 we increased the amount of Cast Iron pipe replaced annually from 3960 feet to 10560 feet. This higher rate is projected to continue into the foreseeable future; 50 years or more.

2. Are there any maintenance/rehabilitation programs completed, underway, or planned which might extend the life of mains? (Such as plastic inserts, coating the interior surfaces, and/or cathodic protection).

Response: Yes. The company has a regular ongoing program to encapsulate bell joints for many years and this program should continue into the foreseeable future.

3. If it was assumed no more competitively priced natural gas was to be available after some future date – say the year 2050 – do you anticipate the existing system would be used to distribute some other energy source, like hydrogen?

Response: We have no studies or plans for this type of change.

4. Most current main retirements are associated with replacements, not abandonments. What is your estimate of the gross salvage and costs to retire for a representative job, assuming a representative job to be the retirement and replacement of 200 to 500 feet of main?

Response: There are no salvage costs since mains are abandoned in place.

What is the practice in separating the costs to retire from the installation costs?

Response: Work associated with abandoning the main is considered retirement. IE. Labor and materials to cut & cap the pipe and purging to air.

Are crews required to charge separate work orders or accounts within a work order?

Response: All work is charged to the same work order but there are separate account codes to differentiate between construction and retirement costs.

How diligent are crews in reporting this separation?

Response: To the best of our knowledge the practice listed above is followed.

Is the separation made by account based on the estimate or other basis? If another basis, what is it?

Response: Estimates for jobs include all costs and separation between construction is based on actual costs.

When replacing mains, is the new main placed in the same trench and the old main removed, or is the new main placed in a new trench and the old main abandoned?

Response: New trench.

5. Do any or all of the current costs of retiring old mains get charged to the construction of the new main?

   Response: No

6. Do you anticipate the physical life of plastic mains to be more or less than steel mains?

   Response: More.

7. What is your estimate of the percent of mains retirements which are NOT due to the physical condition of the pipe?

   Response: Very small. Most of the mains retired are associated with the Cast Iron program discussed above or corrosion related replacements. We would guess this figure to be much less than 1 percent of our annual main installations.

8. Have you or do you expect to physically remove and salvage mains of a certain minimum size; e.g., 8" (and up)? Details, please.

   Response: No.

C. 1. Have there been or are there likely to be any extra-ordinary retirements of M&R Station Equipment in the period from about 10 years ago to 10 years forward?

Response: No.

Is there any reason to anticipate the retirement experience of the past 10 to 20 years may not be fairly representative of the future for this equipment? For example, you might be entering into a period in which you will rebuild M&R stations and/or City Gate Stations. Another life change example might be that automation/electronics is now more prevalent.

Response: Regulator Stations have historically been installed, upgraded or abandoned on an individual basis and this previous practice is likely to continue in the future.

Please advise us of the extent of capital expended for SCADA and/or other electronic control/monitoring schemes; these dollars surely will not realize the life expected of the typical M&R equipment.

Response: SCADA is being introduced at regulator stations. In 2002 inlet/outlet pressures are to be connected to SCADA at Kraft St, and in 2003-2006 there is provision in the 5 year budget to introduce SCADA at 3 stations each year.

2. What is your estimate of salvage values and removal costs for this equipment upon retirement?

Response: There are no salvage values associated with regulator stations. The average cost of removal of the last two station upgrades is $3,400.

D. 1. Services is an account which can generally be analyzed by statistical methods to develop an indication of the historical average service life; however, there are frequently reasons to doubt that the future experience will mirror the past. Such things as conversion programs to replace steel services and/or plastic inserts are examples. Have there been or are there any such programs planned? Please provide us the particulars.

Response: No.

2. Do you anticipate the physical life of plastic services will be different than steel?

Response: No.

Do you have any copper services: Please enumerate.

Response: No.

3. Costs to retire relative to the original cost of retired services generally produce extremely high percentage relationships, even though most are retirements with replacements. What does it cost to retire a typical service?

Response: $400.

Services Account Bal
$9,842,515

What is the practice in separating the costs to retire from the installation costs?

Response: Work associated with abandoning the service is considered retirement. IE. Labor and materials to cut & cap the pipe, remove the old riser and purging to air.

Are crews required to charge separate work orders or accounts within a work order?

Response: All work is charged to the same work order but there are separate account codes to differentiate between construction and retirement costs.

How diligent are crews in reporting this separation?

Response: To the best of our knowledge thes practice listed above is followed.

Is the separation made by accounting based on the estimate or other basis? If another basis, what is it?

Response: Estimates for jobs include all costs and separation between construction is based on actual costs.

E. As with Services, a historical indication of average service life can be developed for the Meters account, but we need to know if there are any reasons to suspect the future may not mirror the past. A prime example would be any program to retire a certain size, type, or age of meter. Another consideration has to do with your meter shop practice. If you have maintained and rebuilt meters in-house, but are going to change to retiring the meters and letting manufacturers function as your meter rebuild shop, the average dollar life of the account could change drastically. Do you realize any salvage value from retired meters?

Response: There are no salvage values associated with meters.

Are removal costs associated with retiring meters expensed or charged to capital?

Response: We do not allocate cost of removal for meters. Per DTE guidelines this cost is to expensed to the 878 Meter & House Regulator Expense.

Obviously another consideration is AMR. Are you getting into AMR or planning to do so soon? Please elaborate. Such a change in equipment can have a significant impact upon the life of the meters account.

Response: AMRs are being installed on a limited basis plan at hard-to-read customers where the economics are justified. There are no current plans to adopt AMR extensively.

F. House Regulators – the comments and questions regarding meters apply to this account.
In which plant account categorized, if you Account 383? Since what year?

Response: This information has already been supplied by accounting.

G. Investments Relative in Industrial Customers – If you have any Industrial customers, we should consider how many more years of service can be expected over which to recover the investments in equipment soley for these customers. We should also quantify and age the investments in this equipment.

Response: Accounting do not differentiate between residential and I&C customers.

FGE-GAS - LIFE EVAL

ACCT/ BAND	RANK 1	2	3	4	5	ASL HI	ASL AVG	ASL DISTR.
31131	59 SC	51 R0.5	50 S-.5	45 R1.0	56. L0.0	59.2	32.5	40.6	15 ≤ 39 yr.
C.I.	10.7	R.I. 33 to 39 Fair			9.7 all C.I. Poor				22 ≤ 49

Only 7 rets. in 1970-2000; none 1995-2000 Causes POOR C.I. and questionable results. Prior study 35 R4.0 LPG tanks in this acct.

305 No BAL attempted as ∅ ret. 1970-2000 2000 Bal = $925,004
Prior study/authorized 50 yr S5.∅
Account contains $633K which is 1998 purchase of previously leased LNG plant + LPG Str. Tk. (Built 1971-72) Estimate 35 year ASL for total LNG plant and 50 yr. ASL for all other Acct 305
Considers Bos Gas, Yankee Gas, SCPC, Fall River, CNG estimates & actual realized lives

		WT
633 @ 35 yr.	=	22,155
292 @ 50	=	14,600
Σ = 925	39.7 yr.	36,755

305 incl. LNG tank NOT LPG tanks

wtd Composite → use 40 yr. R3.0

320* Prior 20 L0.0 Bal 12/31/2000 $364,609

32027	15.7 SC	16.2 L0.0	15.4 R0.5	15.3 S-.5	15.7 L0.5	16.2	13.8	14.6	see Hi vs Lo
C.I.	2.5	R.I. 83 to 91			2.3				

1970-2000 history includes only two rets., 1981 $142,663 & 1994 $3,776
Due to limited refs., C.I. very poor; however indicated ASL are relatively supportive of prior est.
No basis to revise; use 20 L0.0
* See page 10 for property in 320

366 prior 50 S5.0 Bal @ 2000 $42,885
Only $36 retired - 1970 to 2000 Only add > 1970: 1972 $7.2K 1973 $1.4K 1995 $3.6K. Oldest surv. $ are 1952 $1,495 No large VIN $, all are ≥ $7,500 WTD average VIN = 1969; i.e., 31.5 yr. old @ EOY 2000
See page 10 for property detail
Use 50 S5.∅

367 Prior 65 R3 Bal @ 2000 $16,575,693

36730	111 L1.0	100 L1.5	90 S1.0	91 L2.0	110 S0.0	183	73	99.7	8 ≤ 79 yr.
C.I.	103	R.I. 57 to 79			100				
36720	75 S6.0	114 L1.0	113 S0.0	101 S0.5	133 L0.5	193	75	103	7 ≤ 79
C.I.	256	R.I. 49 to 100			245				
36710	76 S5.0	195 SC	109 R1.5	158 R0.5	128 R1.0	195	75	103	7 ≤ 79
C.I.	431	RI 31 to 100			420		56.0		
36705	79 S3.0	84 L3.0	83 S2.0	77 S4.0	93 L2.0	195	75	103	8 ≤ 79
C.I.	2634	R.I. 77 to 100			2500		56.0		

Rets. much higher 1991-2000 than any other decade, avg $37K/yr vs 71-80 $4.6K/yr 81-90 $3.6K/yr.
Also, ratio of adds/refs. quite high; 1991-2000 is lowest @ 20; 1981-90 = 101; 1971-80 = 57
Indicates very large $ growth, relatively.
OVER

ACCT/ BAND	RANK 1	2	3	4	5	ASL HI	LO	AVG	
367 - Continued									

Co. advised us that c.l. main repl. underway, started in early 1980's. Annual replacement rate of ≥3,960 ft/yr. 2001 increased to 10,560 ft/yr. — to continue for next 50 years. This means that rets s/b much higher in 2000 and subsequent years ∴ life analyses in years later e.g. 2005, 2010, should show LOWER avg. lives than now.

The ret. activity is markedly up, beginning 1990, i.e. rets. each year 1990-2000 are much higher — ALL my notes herein. AND the 2000 ret. volume of $44.5K is about twice the 1994 to 1999 avg.

DTE 2000 Report shows ± 25% of mains are C.l. and most of the c.l. mains are ≤6"Ø

ALSO, plastic mains constitute only 8.9% of all mains (footage)

2000 ret. incl. 11,107 ft. of mains; 9,857 ft. was C.l.

It can be seen, via the 5 & 10 yr. band, the impact of increased ret. volumes and with the foregoing commitment, the prior ordered 65 yr ASL will likely be proven by subsequent studies.

use 65 R3.0

369	prior 30	R0.5	Bal. $1,015,284						
36930	16 R4.0	16.5 R3.0	16 R5.0	16 S4.0	16 S5.0	23.3	15.8	18.2	20 ≤ 19 yr
C.l.	9.0	R.l. = all 100			8.8				
36920	16 R4.0	16.5 R3.0	16 R5.0	16 S4.0	16 S5.0	23.2	15.8	18.1	21 ≤ 19
C.l.	10.0	R.l. = all 100			9.8				
36910	21 SC	20 R0.5	21 L0.0	20 S-.5	18 R1.0	21.5	14.8	17.2	22 ≤ 19
C.l.	12.6	R.l. all 100			12.1				

C.l. all poor, but ASL's all < 30 yrs. Adjust moderately. use 25 R0.5

See also p. 10 of 10

380	prior	45 S2.0		Bal. $9,842,519					
38030	42 S6.0	43 S5.0	43 R5.0	43 L5.0	44 S4.0	123	42	63.1	9 ≤ 49 yr.
C.l.	137	R.l. all 100			103				
38020	43 S6.0	43 S5.0	44 R5.0	44 L5.0	44 S4.0	130	43	65.2	8 ≤ 49
C.l.	223	R.l. all 100			202				
38010	43 S6.0	44 S5.0	45 L5.0	45 S4.0	44 R5.0	140	43	67.9	8 ≤ 49
C.l.	372	R.l. all 100			296	5 band similar			

Only natural that services adds & rets have increased in parallel to those of mains. Note that the avg. ret./year 1991-2000 is $14.3K vs $5.5K for 1981-1990 and $3.4K for 1971-1980. Adds increases are similar.

Prior est. appears supported and may in time prove to be a little high.

use 45 S4.0

366	0		1									S3
367	0	MAIN		S			TOTAL AC COUNT				1	S1
367	0	02/		05/02	1 DO	GAS		2000	1657569252	1969	1880	S2
367	0		12000	176857800	4451500	0	0	0	0		1657569252	S3
367	0		11999	132313300	2730500	0	0	0	0		1485162952	S3
367	0		11998	52482500	1949200	0	0	0	0		1355580152	S3
367	0		11997	71102100	3413000	0	0	0	0		1305046852	S3
367	0		11996	62943500	1520000	0	0	0	0		1237357752	S3
367	0		11995	84638400	3952500	0	0	0	0		1175934252	S3
367	0		11994	57676200	2789300	0	0	0	0		1095248352	S3
367	0		11993	36108600	7572500	0	0	0	0		1040361452	S3
367	0		11992	21293000	7358700	0	0	0	0		1011825352	S3
367	0		11991	50410177	1342997	0	0	0	0		997891052	S3
367	0		11990	76858154	1105792	0	0	0	0		948823872	S3
367	0		11989	31605287	21645	0	0	0	0		873071510	S3
367	0		11988	84394091	72899	0	0	0	0		841487868	S3
367	0		11987	37420557	242635	0	0	0	0		757166676	S3
367	0		11986	33724434	41875	0	0	0	0		719988754	S3
367	0		11985	15332405	143112	0	0	0	0		6863 6195	S3
367	0		11984	16618104	1351634	0	0	0	0		671116902	S3
367	0		11983	9633595	103280	0	0	0	0		655850432	S3
367	0		11982	44919902	128175	0	0	0	0		646320117	S3
367	0		11981	18534785	439325	0	0	0	0		601528390	S3
367	0		11980	47507603	21340	0	0	0	0		583432930	S3
367	0		11979	46594968	811541	0	0	0	0		535946667	S3
367	0		11978	30329449	138782	0	0	0	0		490163240	S3
367	0		11977	19744808	60570	0	0	0	0		459972573	S3
367	0		11976	22524737	551166	0	0	0	0		440288335	S3
367	0		11975	16121185	729578	0	0	0	0		418314764	S3
367	0		11974	20720280	113986	0	0	0	0		402923157	S3
367	0		11973	7592725	229800	0	0	0	0		382316863	S3
367	0		11972	31824557	1652648	0	0	0	0		374953938	S3
367	0		11971	15607009	242003	0	0	0	0		344782029	S3
367	0		11970	30606260	294100	0	0	0	0		329417023	S3
367	0		11969	17781200	272800	0	0	0	0		2991 4863	S3
367	0		11968	7108800	0	0	0	0	0		281596463	S3
367	0		11967	3045700	0	0	0	0	0		0 0	S3

period	sum of adds	sum of rets	adds average per year	rets average per year	ratio adds/rets
1969-2000	14,218,217	458,489	444,319	14,328	31.01
1971-2000	13,734,342	452,820	457,811	15,094	30.33
1981-2000	11,148,669	407,306	557,433	20,365	27.37
1991-2000	7,458,256	370,802	745,826	37,080	20.11
1981-1990	3,690,413	36,504	369,041	3,650	101.10
1971-1980	2,585,673	45,514	258,567	4,551	56.81
1996-2000	4956992	140642	495,699	14,064	35.25

367	0		1												
369	0	M & R		STATION	EQUIP.	TOTAL AC COUNT									S3
369	0	02/		11/02	1 DO	GAS				2000	101528405	1969	1915	1	S1
369	0		12000	4470200	678500	0	0	0	0						S2
369	0		11999	5627000	467400	0	0	0	0				101528405		S3
369	0		11998	13185400	1357400	0	0	0	0				97736705		S3
369	0		11997	5459800	0	0	0	0	0				92577105		S3
369	0		11996	4581800	1407600	0	0	0	0				80749105		S3
369	0		11995	8800	12100	0	0	0	0				75289305		S3
369	0		11994	17398700	208600	0	0	0	0				72115105		S3
369	0		11993	186300	1079500	0	0	0	0				72118405		S3
369	0		11992	6681600	22393200	0	0	0	0				54928305		S3
369	0		11991	34000	0	0	0	0	0				55821505		S3
369	0		11990	16485726	444055	0	0	0	0				71533105		S3
369	0		11989	9360957	0	0	0	0	0				71499105		S3
369	0		11988	0	0	0	0	0	0				55457434		S3
369	0		11987	2867444	0	0	0	0	0				46096477		S3
369	0		11986	14239063	0	0	0	0	0				46096477		S3
369	0		11985	76948	71200	0	0	0	0				43229033		S3
369	0		11984	0	0	0	0	0	0				28989970		S3
369	0		11983	3013118	4	0	0	0	0				28984222		S3
369	0		11982	6354061	0	0	0	0	0				28984222		S3
369	0		11981	1177458	0	0	0	0	0				26371104		S3
369	0		11980	1956696	0	0	0	0	0				20017043		S3
369	0		11979	627817	44000	0	0	0	0				18839585		S3
369	0		11978	3546743	497397	0	0	0	0				16882889		S3
369	0		11977	90444	58900	0	0	0	0				16299072		S3
369	0		11976	820156	204720	0	0	0	0				13249726		S3
369	0		11975	1253162	466768	0	0	0	0				13218182		S3
369	0		11974	1486236	0	0	0	0	0			126	2746		S3
369	0		11973	4559337	0	0	0	0	0				11816352		S3
369	0		11972	1797029	0	0	0	0	0				10330116		S3
369	0		11971	563350	0	0	0	0	0				5770779		S3
369	0		11970	322700	0	0	0	0	0				3973750		S3
369	0		11969	41800	0	0	0	0	0				3410400		S3
369	0		11968	98200	0	0	0	0	0				3087700		S3
369	0		11967	98400	0	0	0	0	0			0	0		S3

period	sum of adds	sum of rets	adds average per year	rets average per year	ratio adds/rets
1969-2000	1,282,738	293,913	40,086	9,185	4.36
1971-2000	1,279,093	293,913	42,636	9,797	4.35
1981-2000	1,112,084	281,196	55,604	14,060	3.95
1991-2000	576,336	276,043	57,634	27,604	2.09
1981-1990	535,748	5,153	53,575	515	103.98
1971-1980	167,010	12,718	16,701	1,272	13.13
1996-2000	333242	39109	33,324	3,911	8.52

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369	0	1								S3
380	0	SERV	ICES			TOTAL AC COUNT			1	S1
380	0	02/	05/02 1 DO	LLARS G/		20 00	9842519	45 1969 188		1S2
380	0	12000	76949900	791900	0	0	0	0	984251945	S3
380	0	11999	81449400	765400	0	0	0	0	908093945	S3
380	0	11998	65081400	1035700	0	0	0	0	8274 9945	S3
380	0	11997	71385000	1533900	0	0	0	0	763364245	S3
380	0	11996	56656000	1213400	0	0	0	0	693513145	S3
380	0	11995	50735100	847900	0	0	0	0	638070545	S3
380	0	11994	38235000	1134400	0	0	0	0	588183345	S3
380	0	11993	31590100	4196100	0	0	0	0	551082745	S3
380	0	11992	36071200	1463600	0	0	0	0	523688745	S3
380	0	11991	27246009	1289886	0	0	0	0	489081145	S3
380	0	11990	34123303	1086051	0	0	0	0	463125022	S3
380	0	11989	29688783	469357	0	0	0	0	430087770	S3
380	0	11988	27461593	987705	0	0	0	0	400868344	S3
380	0	11987	12644079	332491	0	0	0	0	374394456	S3
380	0	11986	16524099	81603	0	0	0	0	362082868	S3
380	0	11985	5612475	262201	0	0	0	0	345640372	S3
380	0	11984	9663771	594205	0	0	0	0	340290098	S3
380	0	11983	22521877	204948	0	0	0	0	331220532	S3
380	0	11982	18627606	376317	0	0	0	0	3089 3603	S3
380	0	11981	35281817	1131082	0	0	0	0	290652314	S3
380	0	11980	31539722	332634	0	0	0	0	2565 1579	S3
380	0	11979	23124983	413515	0	0	0	0	225294491	S3
380	0	11978	32030704	485208	0	0	0	0	202583023	S3
380	0	11977	18365635	438056	0	0	0	0	171037527	S3
380	0	11976	13637011	926986	0	0	0	0	1531 9948	S3
380	0	11975	11196890	103165	0	0	0	0	140399923	S3
380	0	11974	9050995	181290	0	0	0	0	1293 6198	S3
380	0	11973	10389645	139818	0	0	0	0	120436493	S3
380	0	11972	8184436	169535	0	0	0	0	110186666	S3
380	0	11971	13292623	168037	0	0	0	0	102171765	S3
380	0	11970	8007300	324470	0	0	0	0	89047179	S3
380	0	11969	4660000	107000	0	0	0	0	81364349	S3
380	0	11968	8063900	0 0	0	0	0	0	76811349	S3

period	sum of adds	sum of rets	adds average per year	rets average per year	ratio adds/rets
1969-2000	9,310,285	235,879	290,946	7,371	39.47
1971-2000	9,183,612	231,564	306,120	7,719	39.66
1981-2000	7,475,485	197,981	373,774	9,899	37.76
1991-2000	5,353,991	142,722	535,399	14,272	37.51
1981-1990	2,121,494	55,260	212,149	5,526	38.39
1971-1980	1,708,126	33,582	170,813	3,358	50.86
1996-2000	3515217	53403	351,522	5,340	65.82

DTE 02-24/25 (Gas) P-5 of 10
Attachment AG-4-3
Page 11 of 32

FGE-GAS- LIFE EVAL, Page 6 of 10

Acct/ Band	RANK 1	2	3	4	5	ASL Hi	Lo		
381	Prior	40 R4.0	Bal @2000						
38130	39 R2.0	41 R1.5	37.5 R2.5	33 S6.0	38 S1.0	50	33	39.0	16 ≤ 39 yr
C.I.	45	R.I. all	100		43				
38120	33 S6.0	33 R5.0	33 S5.0	41 R1.5	39 R2.0	51	33	39.0	16 ≤ 39
C.I.	51	R.I. all	100		48				
38110	31 S6.0	31 S5.0	32 R5.0	32 L5.0	32 S4.0	52	31	38.6	16 ≤ 39
C.I.	112	R.I. all	100		79				

5 yr. band similar

Moderate adjustment appears appropriate - not just in historical sense. Metering is changing...

use 35 R4.0

382	Prior	45 R3.0	Bal. $1,797,485						
38230	35 S6.0	36 S5.0	36 R5.0	37 L5.0	37 S4.0	183	35	69.1	6 ≤ 39
C.I.	158	R.I. all	100		147				11 ≤ 49
38220	35 S6.0	36 S5.0	37 R5.0	37 L5.0	37 S4.0	187	35	70.0	5 ≤ 39
C.I.	178	R.I. all	100		168				11 ≤ 49
38210									
C.I.									

Refs. inconsistent, see page 7; no refs. 1985-89, $2.10 ref. in 1990, none 1991-93, then none 1998 & 99. On other hand, adds. most every year and they are about 40 to 60 times the refs (avg. add vs. avg. ref.) 10 yr. band results are "off the wall", with top 5 ranks especially so - they indicate ASL of to 204 years

Suggest slightly longer life than for 381, Meters

use 40 S4.0

383	Prior	40 S2.0	Bal. $45,834						
38329	Too few refs. to be meaningful. And adds - none since 1980								
	All house regulators now flow thru Account 382								
	Rank 1 is 33 6yr. SC Logically s/b ASL like Acct 382								
	use same as 382				40 S4.0				

386	Prior	8 S3.0	Bal.	$1,941,875					
38630	8.7 L1.0	8.8 L0.5	8.7 L1.5	8.8 L0.0	8.6 L2.0	8.8	8.3	8.5	see Hi vs Lo
C.I	20.1	R.I. = all	100		16.1				
38620		see 30 band, almost identical				8.8	8.3	8.5	
C.I.									
38610	9.5 S6.0	9.4 R5.0	9.5 S5.0	9.4 L5.0	9.4 S4.0	9.5	8.7	9.1	
C.I.	46.0	R.I. all	100		37.4				

use 9 S1.0

Acct/ Bank	1	2	3	4	5	ASL Hi	Lo	Avg	
		RANK							
391	Prior	15 R3.0	Bal.	$76,964					
39130	15.1 S6.0	15.9 S5.0	16.4 R5.0	16.5 L5.0	17.1 S4.0	40.2	15.1	24.2	8 ≤ 19 yr.
C.I.	9.2	R.I. all 100			8.2				22 ≤ 29

Very spotty adds & rets. Only 5 yrs. have ret. & 7 yrs have adds (1970-2000)
Makes for poor fit by SPR BAL - see Low C.I. values.
No basis for revision
use 15 R3.0

394	Prior	35 R2.0		Bal. = $177,222					
39430	126 SC	100 R0.5	78 R1.0	64 R1.5	90 S-.5	126	37	58.6	5 ≤ 39 yr.
C.I.	55.4	R.I. 22 to 35			54.6				13 ≤ 49

Analyses poor as only 3 rets. in 30 yrs.; 1995, 1994 & 1975 AND
No ADDS 1985-1991, 1976 and 1979-1981.
The type of equipment in 394 does NOT live 60-125 yr avg. lives!
No basis to revise use 35 R2.0

395	Prior	35 S2.0		Bal. @ 2000 $68,964					
39530	25 S5.0	25 S6.0	25 R5.0	26 L5.0	26 S4.0	54.8	24.6	34.2	11 ≤ 29
C.I.	47.2	R.I. all 100			43.3				21 ≤ 39

Odd that C.I. & results so near normal, as only 6 yrs w/ret. and
no adds 1983-91, 1976-80, 1979, 1971, 1973 & 1974.
No basis to revise ASL
use 35 R2.0

396 See component estimate, page 9

398	Prior	35 R4.0		Bal. $45,390					
39830	49 SC	44 R0.5	44 S-.5	50 L0.0	41 R1.0	49.5	31.9	38.1	18 ≤ 39 yr.
C.I.	18.5	R.I. = 66 to 91			16.8				

Very spotty adds & rets. 1970-2000
No real basis to revise ASL use 35 R3.0

Very long ASL for the equipment normally in 398

381	0	1												S3
382	0	METE	R INSTALLA	IONS		TOTAL AC		COUNT					1	S1
382	0	02/	11/02	1 DO	LLARS	G/		20	00	1797484	64	1969	190	2S2
382	0	12000	7750000		504700	0	0	0	0				179748464	S3
382	0	11999	13334300	0	0	0	0	0	0		1725	3164		S3
382	0	11998	13139800	0	0	0	0	0	0				159168864	S3
382	0	11997	12946500		24800	0	0	0	0				146029064	S3
382	0	11996	3886900		1709300	0	0	0	0		1331	7364		S3
382	0	11995	12693800		15100	0	0	0	0				130929764	S3
382	0	11994	16048300		266100	0	0	0	0				118251064	S3
382	0	11993	9558400	0	0	0	0	0	0				102468864	S3
382	0	11992	0	0	0	0	0	0	0				92910464	S3
382	0	11991	3119221	0	0	0	0	0	0				92910464	S3
382	0	11990	8933733		210	0	0	0	0				89791243	S3
382	0	11989	6822722	0	0	0	0	0	0				80857720	S3
382	0	11988	5900840	0	0	0	0	0	0				74034998	S3
382	0	11987	860855	0	0	0	0	0	0				68134158	S3
382	0	11986	3404648	0	0	0	0	0	0				67273303	S3
382	0	11985	1433316	0	0	0	0	0	0				63868655	S3
382	0	11984	5694659		115613	0	0	0	0				62435339	S3
382	0	11983	11000077		119574	0	0	0	0				56856293	S3
382	0	11982	2128568		11500	0	0	0	0				45975790	S3
382	0	11981	4171212		543518	0	0	0	0				43858722	S3
382	0	11980	11540303		515665	0	0	0	0				40231028	S3
382	0	11979	4070340		4687	0	0	0	0		292	6390		S3
382	0	11978	4220147		90236	0	0	0	0				25140737	S3
382	0	11977	1921388		7099	0	0	0	0				21010826	S3
382	0	11976	857877		90448	0	0	0	0				19096537	S3
382	0	11975	1303043		39222	0	0	0	0				18329108	S3
382	0	11974	2991149		1000	0	0	0	0				17065287	S3
382	0	11973	3250992	0	0	0	0	0	0				14075138	S3
382	0	11972	2841570	0	0	0	0	0	0				10824146	S3
382	0	11971	694760		14200	0	0	0	0				7982576	S3
382	0	11970	133200	0	0	0	0	0	0		73	2016		S3
382	0	11969	845500	0	0	0	0	0	0				7168816	S3
382	0	11968	839400	0	0	0	0	0	0				6323316	S3
382	0	11967	961500	0	0	0	0	0	0		0	0		S3

period	sum of adds	sum of rets	adds average per year	rets average per year	ratio adds/rets
1969-2000	1,774,981	40,730	55,468	1,273	43.58
1971-2000	1,765,194	40,730	58,840	1,358	43.34
1981-2000	1,428,279	33,104	71,414	1,655	43.14
1991-2000	924,772	25,200	92,477	2,520	36.70
1981-1990	503,506	7,904	50,351	790	63.70
1971-1980	336,916	7,626	33,692	763	44.18
1996-2000	510575	22388	51,058	2,239	22.81

Component wtd ASL Estimate

GAS 396

DATE	ADD QTY	RET QTY	ORG.YR	DESCRIPTION	AMT ADDED	ASL Est. Years	Weight Factor
Apr-64	1			Pump, model 520A CH&E 2" diaphram Br	$431.00	20	$8,620.00
Sep-64	1			GE Sump Pump model #5KH33GG365A	$35.00		
Nov-69	1			Davis Trencher Backhoe	$8,406.00	20	$168,120.00
Nov-79		1	1964	Retire Sump Pump	($35.00)		
Aug-93	1			Welding generator Miller Trailblazer 250 a	$3,463.32	25	$86,583.00
Dec-93	1			Hi pressure tapping power operator for Cl-	$4,501.76	25	$112,544.00
Oct-94	1			D-5 Drilling and stopping machine	$1,109.33	25	$27,733.25
Oct-94	1			Power Operator	$3,659.61	25	$91,490.25
Oct-94	1			Kit #129 for 2" line stopper fitting	$1,045.32	25	$26,133.00
Oct-94	1			Kit #105 for 2" service tee	$512.00	25	$12,800.00
Oct-94	2			2" Bypass stopper	$172.29	25	$4,307.25
Oct-94	1			2" Gate Valve	$85.34	25	$2,133.50
Sep-97	1			Sand Blaster 50#	$1,338.11	15	$20,071.65
Jul-99	1			Upright trench Compactor	$3,415.96	15	$51,239.40
Aug-00	3			Trench Compactors	$6,906.90	15	$103,603.50
				sum of surviving balances(gas)	$35,046.94		$715,378.80
				Acct 396 GAS wtd composite ASL		20.41202	

Page 9 of 10

Acct. 320 Contains:

2000 Bal. = $364K

Telemetry & Communication facilities (for LNG plant to plant)

Chromatograph	1993	$31K
1982 Telemetry equip.		15
1984 Upgrades to telemetry + gas control software		46
1992 Upgrade Gas SCADA System		49
		$141K

Largest $ VIN survivors

None of the above is long-lived, especially software, incl. SCADA system
Big $ adds of 2001 are telemetry type hardware & software (control system); saw it being installed @ LNG plant

Acct 366 Bal. $43K

Most $ are conc. block bldgs @ M&R stations; largest is the one at S.P. – Dirt/cr. rock floors + no heat.
Each VIN. additions and VIN. survivor is ≤ $7,500

Acct 369

1992 ret. of $224K is ≈ 76% of Σ rets. 1970-2000
$171K was ret. of Lunenberg city gate M&R sta. destroyed by fire in 1989. Balance was misc. M&R equip. ret. backlog brought about by merger of FGE into Unitil (catchup)

Acct 381 So few rets. 1995 to 1999?
Due to new billing system which finally went on-line in 1998 AND personnel turnover.

FGE Acct 396 E + G + C
Component wtd ASL Estimates

GAS 396

DATE	ADD QTY	RET QTY	ORG.YR	DESCRIPTION	AMT ADDED	ASL Est. Years	Weight Factor
Apr-64	1			Pump, model 520A CH&E 2" diaphram Brig	$431.00	20	$8,620.00
Sep-64	1			GE Sump Pump model #5KH33GG365A	$35.00		
Nov-69	1			Davis Trencher Backhoe	$8,406.00	20	$168,120.00
Nov-79		1	1964	Retire Sump Pump	($35.00)		
Aug-93	1			Welding generator Miller Trailblazer 250 am	$3,463.32	25	$86,583.00
Dec-93	1			Hi pressure tapping power operator for CI-3	$4,501.76	25	$112,544.00
Oct-94	1			D-5 Drilling and stopping machine	$1,109.33	25	$27,733.25
Oct-94	1			Power Operator	$3,659.61	25	$91,490.25
Oct-94	1			Kit #129 for 2" line stopper fitting	$1,045.32	25	$26,133.00
Oct-94	1			Kit #105 for 2" service tee	$512.00	25	$12,800.00
Oct-94	2			2" Bypass stopper	$172.29	25	$4,307.25
Oct-94	1			2" Gate Valve	$85.34	25	$2,133.50
Sep-97	1			Sand Blaster 50#	$1,338.11	15	$20,071.65
Jul-99	1			Upright trench Compactor	$3,415.96	15	$51,239.40
Aug-00	3			Trench Compactors	$6,906.90	15	$103,603.50
				sum of surviving balances(gas)	$35,046.94		$715,378.80
				Acct 396 GAS wtd composite ASL		20.41202	

ELECTRIC 396

DATE	ADD QTY	RET QTY	DESCRIPTION	AMT ADDED		
1961	1		2" pump model LM23-52-1-550 Volt 3 phase	$432.00	20	$8,640.00
1962	1		Elec. motor inc. 3 HP 1200 RPM 3 phase G	$270.00	20	$5,400.00
1962	1		Digger Post hole Model A Sterling hydraulic	$7,580.00	20	$151,600.00
1963	1		1951 F6 2 ton 158" WB ford truck w. vacuu	$5,856.10	15	$87,841.50
1963	1		Pump model 35S2-IR gasoline operated Ho	$294.00	20	$5,880.00
1964	1		Pump model 35S2-IR Homelite	$292.00	20	$5,840.00
1979	1		Kenco Sump Pump 83A	$558.95	20	$11,179.00
Oct-97	1		Huskie Battery Powered 12 Ton Crimper	$4,479.75	15	$67,196.25
			sum of surviving balances(electric)	$19,762.80		$343,576.75
			Acct 396 ELECTRIC wtd composite ASL		17.38502	

COMMON 396

DATE	ADD QTY	RET QTY	ORG.YR	DESCRIPTION	AMT ADDED		
Feb-1970	1			Yale Propane powered fork lift	$7,466.00		
1973	1			Homelite Model #270 Pump	$492.34	20	$9,846.80
1975	1			Used automatic sander	$1,204.96	20	$24,099.20
1945	1		Jun-00	Black & Decker 5/16" electric Drill (1945)	$47.04		
1947	1		Jun-00	Peerless 6" metal saw (1947)	$566.01		
1947	1		Jun-00	Machine type 2B Edlund drilling (1947)	$323.18		
1947	1		Jun-00	Grinder, Hammond bearing (1947)	$134.24		
1947			Jun-00	Express & Trucking for above in 1947	$40.65		
1954	1		Jun-00	Model A Beaver portable pipe threader (1954)	$560.95		
1957	1		Jun-00	Snap On Corp air operated impact wrench (19	$242.00		
1979	1			Pavement Breaker	$787.50	20	$15,750.00
1979	1			Impact Wrench	$450.97	20	$9,019.40
1979	1			Impact Wrench	$450.96	20	$9,019.20
1982	1			Recon Black & Decker Rotary Hammer	$320.26	20	$6,405.20
1982	1			Black & Decker Rotary Hammer	$384.81	20	$7,696.20
Nov-1989		1	1970	Yale Fork Lift			
Jul-1993	1			Toro Powerlite Snow Thrower #38170	$409.50	10	$4,095.00
Jul-1993	1			Toro Powerlite Snow Thrower #38190	$409.50	10	$4,095.00
Mar-1997	1			Installed New Sump Pump Sawyer Passwa	$877.81	20	$17,556.20
Jun-2000		1	1945	Black & Decker 5/16" electric Drill (1945)			
		1	1947	Peerless 6" metal saw (1947)			
		1	1947	Machine type 2B Edlund drilling (1947)			
		1	1947	Grinder, Hammond bearing (1947)			
			1947	Express & Trucking for above in 1947			
		1	1954	Model A Beaver portable pipe threader (1954)			
		1	1954	Snap On Corp air operated impact wrench (1957)			
				sum of surviving balances(common)	$5,788.61		$107,582.20
				Acct 396 COMMON wtd composite ASL		18.58515	
				TOTAL Account 396 ASL est.	$60,598.35	19.25032	$1,166,537.75

Use 20 R 4.0 for E/G/C 396

FGE - Gas
Net Salv. Review

8 Feb 02

Acct 305 - Bal. $925,004 Prior study (15)%
No rets. 1981-2000 [98$633K is LNG plant ∴ definitely s/b net COR for 305)
Also includes LPG str. & improv. (10)% s/b adequate
includes tanks

Acct 311 Bal. $1,235,897 Prior study Ø
Could use same % as Berkshire Gas Estimate + 10%, however, all
FGE propane tanks are mounded ∴ more COR yes - LP tanks are in 311
use +7%

Acct 320 Bal. $364,609 Prior +10%
FGE History meaningless - one ret. & one COR - in different years! (COR first)
Property equip. is such that s/b no salvage & minor - if any - COR. (See ASL eval)
use Ø
Big 2001 add. is for telemetry type hardware & software. Was being installed when I was @ LNG plant
Referred to as control system, as much as pure telemetry

Acct 366 - Bal. $42,885 Prior (15)%
No rets. 1981-2000, but 1981 has 17,666 COR
Most of this small conc. block bldgs @ M&R sta. Biggest is @ S.P.
Not suitable for other uses - dirt/rock "floors" No heat.
s/b COR only use (15)%

Acct 367 Bal. $16,575,693 Prior (80)%
FGE history: 1981-2000 $Ret. N.S. 1991-2000 $Ret N.S.
407.3K $1,531.5K (376.0)% 370.8K $1,481.2K (399.5)%
1996-2000 N.S. (518.3)%
Obviously COR has far exceeded prior estimate and is increasing.
Adjust accordingly
use (120)%

Acct 369 Bal. $1,015,284 Prior (5)%
FGE history 1981-2000 1991-2000 1996-2000
Ret. $285.2K $276.0K
N.S. $(257.5)K (255.8)K
N.S. (90.3)% (92.7)% (529.4)%
Obviously prior est. vastly understates COR. Adjust accordingly
use (50)%

FGE-GAS – Net Salv.

P.2 of 3

Acct 380 Bal. $9,842,519 prior (100)%

FGE History	1981-2000	1991-2000
Ret. $	198.0K	142.7K
N.S. $	(1,009.9)K	(761.9)K
N.S. %	(510.1)	(533.9)

(532.3)

There is not an obvious trend of net salvage nor COR, but prior est. is obviously inadequate. Adjust toward — use (150)% But note Net COR % inflated by FIFO ret. pricing

Acct. 381 Bal. $1,845,761 prior Ø

FGE History supports prior est.

	1981-2000	1991-2000	1996-2000
Ret. $	239.0K	98.7K	
N.S. $	(4.7)K	Ø	
N.S. %	(2.0)	Ø	Ø

use Ø

Acct 382 Bal. $1,797,485 prior (10)%

FGE History:

	1981-2000	1991-2000	1996-2000
Ret. $	25.2K	25.2K	
N.S. $	(0.1)K	Ø	
N.S. %	(0.5)	Ø	Ø

Assuming most $ of Acct 382 are labor, s/b about Ø N.S.

Acct 383 Bal $45,834 Prior Ø

Only $16. ret. in 1981-2000 period. Experience meaningless

use Ø Rmvl s/b IAW service ret. and/or motor replacement

Units so small as to be negligible as to effort to remove

use Ø

o/o NS

Yr./Acct 1981-2000	Retirements E	G	C	Total FGE
391	12780	3671	655342	671793
393	NA	NA	6988	6988
394	9314	3105	19598	32017
395	26959	3412	0	30371
396	0	0	9380	9380
397	3566	NA	63579	67145
398	8251	22501	2359	33111
				850805

Yr./Acct 1981-2000	Net Salvage E	G	C	Total FGE	Percent Net Salvage	E	G	C
391	0	0	38859	38859	5.8	Ø	Ø	5.9
393	NA	NA	0	0	0.0	NA	NA	Ø
394	255	0	891	1146	3.6	2.7	Ø	4.5
395	0	0	0	0	0.0	Ø	Ø	Ø
396	0	0	0	0	0.0	Ø	Ø	Ø
397	800	NA	2800	3600	5.4	22.4	NA	4.4
398	175	50	0	225	0.7	2.1	0.2	Ø
				43830	5.2			

Yr./Acct 1991-2000	Retirements E	G	C	Total FGE
391	2162	1557	527135	530854
393	NA	NA	2913	2913
394	8599	3105	856	12560
395	26959	2760	0	29719
396	0	0	1914	1914
397	0	NA	50637	50637
398	8251	14459	2359	25069
				653666

Yr./Acct 1991-2000	Net Salvage E	G	C	Total FGE	Percent Net Salvage	E	G	C
391	0	0	21135	21135	4.0	Ø	Ø	4.0
393	NA	NA	0	0	0.0	NA	NA	Ø
394	0	0	0	0	0.0	Ø	Ø	Ø
395	0	0	0	0	0.0	Ø	Ø	Ø
396	0	0	0	0	0.0	Ø	Ø	Ø
397		NA	0	0	0.0	Ø	NA	Ø
398	0	0	0	0	0.0	Ø	Ø	Ø
				21135	3.2			

E GC combo FGE.xls
(no spaces)

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NOTICE: This report is required by 49 CFR Part 191. Failure to report can result in a civil penalty not to exceed $1,000 per day (Gas) for each that such violation persists except that the maximum civil penalty shall not exceed $200,000 as provided in 49 USC 60122. 4-3

Form Approved OMB No. 2137-

U.S. Department of Transportation
Research and Special Programs Administration

ANNUAL REPORT FOR CALENDAR YEAR 2000
GAS DISTRIBUTION SYSTEM

INITIAL REPORT ☐
SUPPLEMENTAL REPORT ☐

PART A - OPERATOR INFORMATION DOT USE ONLY

DOT USE ONLY

1. NAME OF COMPANY OR ESTABLISHMENT
Fitchburg Gas and Electric Light Company

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED
285 John Fitch Highway
Number and Street
Fitchburg Worcester
City and County
Massachusetts 01420-5993
State and Zip Code

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER (WHEN KNOWN)
15120

4. HEADQUARTERS NAME & ADDRESS IF DIFFERENT

5. STATES IN WHICH SYSTEM OPERATES Massachusetts

PART B - SYSTEM DESCRIPTION Report miles of main and number of services in system at end of year

1. GENERAL

9.0%

	STEEL				PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	OTHER	Σ
	UNPROTECTED 26.5%		CATHODICALLY PROTECTED 37.7%								
	BARE	COATED	BARE	COATED	9.0%	25.0%	1%				
MILES OF MAINS		82		117	28	80	3				310
NO. OF SERVICES	30	1082		5848	1371	30					11,355
2. MILES OF MAINS IN SYSTEM AT END OF YEAR	26.6%	9.5%		51.5%	12.1%	0.3%					100%

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"	Σ
STEEL		59	82	58			199
DUCTILE IRON							3
COPPER							
CAST/WROUGHT IRON			61				80
PLASTIC 1. PVC							
2. PE		8	18	2			28
3. ABS							
OTHER							
OTHER							
SYSTEM TOTALS		70	159	79			310

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR — AVERAGE SERVICE LENGTH 55 FEET

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"	Σ
STEEL		3109	6803	43			9,955
DUCTILE IRON							
COPPER							
CAST/WROUGHT IRON			26	4			30
PLASTIC 1. PVC							
2. PE		810	542	18	1		1,371
3. ABS							
OTHER							
OTHER							
SYSTEM TOTALS		3919	7371	65	1		11,356

Form RSPA F 7100 1-1 (11-98)
Supersedes DOT F 7100 1-1

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PART C - TOTAL LEAKS

CAUSE	ELIMINATED/REPAIRED DURING YEAR Mains	Services
CORROSION		
THIRD PARTY	[redacted]	[redacted]
OUTSIDE FORCE		
CONSTRUCTION DEFECT	[redacted]	[redacted]
MATERIAL DEFECT		
OTHER	299	236
NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR	83	

PART D - TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED FOR REPAIR

0

PART E - PERCENT OF UNACCOUNTED FOR GAS

Unaccounted for gas as a percent of total input for year ending 6/30 1.2 %

PART F - ADDITIONAL INFORMATION

PART G - PREPARER AND AUTHORIZED SIGNATURE

Prepared by (type/print) / telephone

Robert E. Bisson, Director — Name and Title of Person Signing

978/353-3277 — telephone

Robert E. Bisson — Authorized Signature

U.S. Department of Transportation

Research and Special Programs Administration

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U.S. Department of Transportation
Research and Special Programs Administration

ANNUAL REPORT FOR CALENDAR YEAR 1999
GAS DISTRIBUTION SYSTEM

INITIAL REPORT ☐
SUPPLEMENTAL REPORT ☐

PART A - OPERATOR INFORMATION DOT USE ONLY

DOT USE ONLY

1. NAME OF COMPANY OR ESTABLISHMENT
Fitchburg Gas and Electric Light Company

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE SENT
285 John Fitch Highway
Number and Street
Fitchburg Worcester
City and County
Massachusetts 01420-5993
State and Zip Code

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER (WHEN KNOWN)
5 2 0 0 0

4. HEADQUARTERS NAME & ADDRESS IF DIFFERENT

5. STATES IN WHICH SYSTEM OPERATES Massachusetts

PART B - SYSTEM DESCRIPTION Report miles of main and number of services in system at end of year

1. GENERAL

	STEEL				PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	OTHER
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED						
MILES OF MAINS		82		117	25	82	3			
NO. OF SERVICES		1094		2831	1140	6147				

2. MILES OF MAINS IN SYSTEM AT END OF YEAR 309

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"
STEEL		59	82	58		
DUCTILE IRON			3			
COPPER						
CAST/WROUGHT IRON		3	63	14	1	1
PLASTIC 1. PVC						
2. PE		8	12	5		
3. ABS						
OTHER						
OTHER						
SYSTEM TOTALS		70	160	77	1	1

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR 11,212 AVERAGE SERVICE LENGTH 55 FEET

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"
STEEL		2733	1148	44		
DUCTILE IRON						
COPPER						
CAST/WROUGHT IRON		397	5746	4		
PLASTIC 1. PVC						
2. PE		651	472	17		
3. ABS						
OTHER						
SYSTEM TOTALS		3781	366	65		

Form RSPA F 7100 1-1 (11-98)
Supersedes DOT F 7100 1-1

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PART C - TOTAL LEAKS

CAUSE	ELIMINATED/REPAIRED DURING YEAR Mains	Services
CORROSION	5	
THIRD PARTY	5	
OUTSIDE FORCE		
CONSTRUCTION		
MATERIAL DEFECT		
OTHER	303	147

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR: 15

PART D - TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED FOR REPAIR

0

PART E - PERCENT OF UNACCOUNTED FOR GAS

Unaccounted for gas as a percent of total input for year ending 6/30 1.96%

PART F - ADDITIONAL INFORMATION

PART G - PREPARER AND AUTHORIZED SIGNATURE

Prepared by (type/print) / telephone

Robert Bisson, Director — 978/353-3277 — Robert E. Bisson

Name and Title of Person Signing — telephone — Authorized Signature

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Research and Special Programs Administration
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Washington, DC 20590-0001

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Form Approved OMB No. 2137-0522

U.S. Department of Transportation
Research and Special Programs Administration

ANNUAL REPORT FOR CALENDAR YEAR 1998
GAS DISTRIBUTION SYSTEM

INITIAL REPORT ■
SUPPLEMENTAL REPORT ☐

PART A - OPERATOR INFORMATION DOT USE ONLY

DOT USE ONLY

1. NAME OF COMPANY OR ESTABLISHMENT
Fitchburg Gas and Electric Light Company

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED
285 John Fitch Highway
Number and Street
Fitchburg Worcester
City and County
Massachusetts 01420-5993
State and Zip Code

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER (WHEN KNOWN)
15120 10 10 10 1

4. HEADQUARTERS NAME & ADDRESS IF DIFFERENT

5. STATES IN WHICH SYSTEM OPERATES Massachusetts

PART B - SYSTEM DESCRIPTION *Report miles of main and number of services in system at end of year*

1. GENERAL

	STEEL				PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	OTHER
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED						
MILES OF MAINS		82		117	22	82	3			

2. MILES OF MAINS IN SYSTEM AT END OF YEAR 306

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"
STEEL		59	82	58		
COPPER						
PLASTIC 1. PVC						
3. ABS						
OTHER						

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR 11,229 AVERAGE SERVICE LENGTH 55 FEET

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"
STEEL		2788	1320	46		
COPPER						
PLASTIC 1. PVC		534	381	13		
3. ABS						
OTHER						

Form RSPA F 7100 1-1 (11-98)
Supersedes DOT F 7100 1-1

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PART C - TOTAL LEAKS

CAUSE	ELIMINATED/REPAIRED DURING YEAR Mains	Services
CORROSION	7	7
OUTSIDE FORCE	0	0
MATERIAL DEFECT	0	0

NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR 47

PART D - TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED FOR REPAIR

0

PART E - PERCENT OF UNACCOUNTED FOR GAS

Unaccounted for gas as a percent of total input for year ending 6/30 5.34%

PART F - ADDITIONAL INFORMATION

PART G - PREPARER AND AUTHORIZED SIGNATURE

Prepared by (type/print) / telephone

Name and Title of Person Signing / telephone / Authorized Signature

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Research and Special Programs Administration
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Washington, DC 20590-0001

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Form Approved
OMB No. 2137-0522

U.S. Department of Transportation
Research and Special Programs Administration

ANNUAL REPORT FOR CALENDAR YEAR 1997
GAS DISTRIBUTION SYSTEM

INITIAL REPORT ☒
SUPPLEMENTAL REPORT ☐

PART A – OPERATOR INFORMATION

DOT USE ONLY

1. NAME OF COMPANY OR ESTABLISHMENT
Fitchburg Gas and Electric Light Company

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED
285 John Fitch Highway
Number and Street
Fitchburg Worcester
City and County
Massachusetts 01420-5993
State and Zip Code

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER (WHEN KNOWN) 5 2 0 0 0

4. HEADQUARTERS NAME & ADDRESS IF DIFFERENT

5. STATES IN WHICH SYSTEM OPERATES Massachusetts

PART B – SYSTEM DESCRIPTION

Report miles of main and number of services in system at end of year.

1. GENERAL

	STEEL				PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	OTHER
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED						
MILES OF MAINS		82		117	20	83	3			
NO. OF SERVICES		1521		2812	781	6147				

2. MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"
STEEL		59	82	58		
DUCTILE IRON			3			
COPPER						
CAST/WROUGHT IRON		3	64	14	1	1
PLASTIC 1. PVC						
2. PE		7	9	4		
3. ABS						
OTHER						
OTHER						
SYSTEM TOTALS		69	158	76	1	1

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR — AVERAGE SERVICE LENGTH 55 FEET

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"
STEEL		2821	1465	47		
DUCTILE IRON						
COPPER						
CAST/WROUGHT IRON		397	5746	4		
PLASTIC 1. PVC		483	286	12		
2. PE						
3. ABS						
OTHER						
OTHER						
SYSTEM TOTALS		3701	7497	63		

Form RSPA F 7100 1-1 (11-85)
(Supersedes DOT F 7100 1-1

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PART C – TOTAL LEAKS

CAUSE	ELIMINATED/REPAIRED DURING YEAR Mains	Services
CORROSION	4	4
THIRD PARTY	0	2
OUTSIDE FORCE	16	4
CONSTRUCTION DEFECT		
MATERIAL DEFECT		
OTHER	183	0
NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR	71	

PART D – TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED FOR REPAIR

0

PART E – PERCENT OF UNACCOUNTED FOR GAS

Unaccounted for gas as a percent of total input for year ending 6/30 4.15%

PART F – ADDITIONAL INFORMATION

PART G – PREPARER AND AUTHORIZED SIGNATURE

Charles E. Christensen — 978 / 353-3210
Prepared by (type/print) — telephone

Charles E. Christensen
Manager, Engineering — 978 / 353-3210 — Charles E Christensen
Name and Title of Person Signing — telephone — Authorized Signature 3/10.98

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OTC 02-2425 (Gas)
Attachment AG-4-3
Page 29 of 32

Form Approved
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US Department of Transportation
Research and Special Programs Administration

ANNUAL REPORT FOR CALENDAR YEAR 19 96
GAS DISTRIBUTION SYSTEM

INITIAL REPORT ☒
SUPPLEMENTAL REPORT ☐

PART A – OPERATOR INFORMATION

DOT USE ONLY

1. NAME OF COMPANY OR ESTABLISHMENT
Unitil/Fitchburg Gas and Electric

2. LOCATION OF OFFICE WHERE ADDITIONAL INFORMATION MAY BE OBTAINED
285 John Fitch Highway
Number and Street
Fitchburg Worcester
City and County
Massachusetts 01420-5993
State and Zip Code

3. OPERATOR'S 5 DIGIT IDENTIFICATION NUMBER (WHEN KNOWN)
5 2 0 0 0

4. HEADQUARTERS NAME & ADDRESS IF DIFFERENT

5. STATES IN WHICH SYSTEM OPERATES Massachusetts

PART B – SYSTEM DESCRIPTION

Report miles of main and number of services in system at end of year.

1. GENERAL

	STEEL				PLASTIC	CAST/ WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	OTHER
	UNPROTECTED		CATHODICALLY PROTECTED							
	BARE	COATED	BARE	COATED						
MILES OF MAINS		83		117	19	84	3			
[illegible]		1879		2611	68	614				

2. MILES OF MAINS IN SYSTEM AT END OF YEAR

MATERIAL	UNKNOWN	2" OR LESS	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8" THRU 12"	OVER 12"
STEEL		59	83	58		(200)
[illegible]			3			(3)
COPPER						
[illegible]						1 (84)
PLASTIC 1. PVC						
[illegible]			8			(19)
3. ABS						
[illegible]						
OTHER						
[illegible]						1 [illegible]

3. NUMBER OF SERVICES IN SYSTEM AT END OF YEAR

AVERAGE SERVICE LENGTH 55 FEET

MATERIAL	UNKNOWN	1" OR LESS	OVER 1" THRU 2"	OVER 2" THRU 4"	OVER 4" THRU 8"	OVER 8"
STEEL		2902	1540	48		
[illegible]						
COPPER						
[illegible]						
PLASTIC 1. PVC						
[illegible]						
3. ABS						
[illegible]						
OTHER						
[illegible]		[illegible]	[illegible]			

Form RSPA F 7100 1-1 (11-85)
Supersedes DOT F 7100 1-1

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PART C – TOTAL LEAKS

CAUSE	ELIMINATED/REPAIRED DURING YEAR Mains	Services
CORROSION	9	75
THIRD PARTY	2	8
OUTSIDE FORCE	45	
CONSTRUCTION DEFECT		
MATERIAL DEFECT		
OTHER	266	21
NUMBER OF KNOWN SYSTEM LEAKS AT END OF YEAR SCHEDULED FOR REPAIR	96	

PART D – TOTAL NUMBER OF LEAKS ON FEDERAL LAND REPAIRED OR SCHEDULED FOR REPAIR

0

PART E – PERCENT OF UNACCOUNTED FOR GAS

Unaccounted for gas as a percent of total input for year ending 6/30 4.6%

PART F – ADDITIONAL INFORMATION

PART G – PREPARER AND AUTHORIZED SIGNATURE

Charles E. Christensen — 508 / 353-3210
Prepared by (type/print) — telephone

Charles E. Christensen
Manager, Engineering — 508 / 353-3210 — Charles E Christensen
Name and Title of Person Signing — telephone — Authorized Signature

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8 Feb 02

FGE

Gas – Acct. 320

LNG	
Yard Flood Lite	<$1K
Telemetry	$15K
Gas lines for vaporizers	12
Chromatograph	23
Odorizer System	23
Rebuild vaporizer (1982)	27
	$100K
LPG	
Fire Detection System / Safety Equip. (fire)	$12K
Upgrade Telemetry	23
As Built Drawings	5
Telemetry (1979 to 1984)	45
I&C	6
(3?) Chromatographs	31
	$122K
Software for Load Dispatch (1997)	$14K
	$236K

Foregoing NOT claimed to be all of Account 320

FG&E

Phone conv. w/ Tressa 15 JAN 02

Common - Acct 390

1981 $841K retirement

Sold (retired) major bldg @ Sawyer Passway (SP) SP was the major FG&E Svc Center

Moved Svc Center to John Fitch Hwy - bought what had been a leased bldg/site.

Note: Sawyer Passway site still "valid" New substa being built, other facilities still there/in use

$ surviving 1980 & prior - @ Sawyer Passway

Big $ surv. 1992 $135K

Repl. loading dock wall	$57.7K
New roof	$50.xK
2 New HVAC units	$25.xK
Σ	132.x

Big surv. 1995 $192K

Rehab bridge to Sawyer Passway

Acct. 390.01/.02 Non-depreciable - amortized

Acct. 393 - Tressa will advise about forklifts New 1967 ?

GAS Acct. 305

$633K surv. 1998 is purchase of LNG plant (leased until then)

plant built 1970's

GAS

Acct. 311

LPG plant built 1961 Lunenburg

LNG built Westminster

GAS