

Customer Equipment Problem Program

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The following report summarizes the workload trends and resource requirements of the Customer Equipment Problem Program.

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Summary

Manitoba Hydro currently provides a no charge labour service to all residential and small commercial natural gas customers for problems with primary space and water heating appliances, and gas ranges. The program is referred to as the Customer Equipment Problem Program (“EPP”). The company has always provided this service (historically referred to as Burner Tip Service) and is one of three utilities in the country that does so (see Appendix B for Customer Equipment Problem Services offered by other major Canadian Utilities). A small percentage of customers utilize the program; that number has been declining as aging appliances are replaced with new equipment. Heating dealers offer equipment warranties and the technology has evolved making it very difficult to have one technician capable of addressing all issues.

The Customer Equipment Problem Program is seasonally driven and in 2017 required an annualized EFT count of 5.22. The resource requirements related to this program have been in decline over the last ten years.

Key Findings

- Only 3.1% of active natural gas customers utilize the Customer Equipment Problem Program. Of the customers who utilize the service, 20% or one in five have used the service on multiple occasions.
- The number of calls has been in steady decline over the last 12 year period. The total number of calls has fallen 57% from 19,000+ in 2006 to 10,996 in 2017.
- The steady decline is correlated with the installation of new natural gas burning equipment. Since 2003 in Winnipeg, 128,300 or 60% of all customers have installed a new furnace which has resulted in fewer Customer Equipment Problem Program calls and fewer safety related calls.
- Of all Customer Equipment Problem Program calls, 85% occurred in Winnipeg with the remaining 15% scattered across the Province. .
- Customer Equipment Problem Program calls are seasonally driven, primarily in the winter heating season. The pronounced fall rush of no heat calls has leveled out as new equipment has been installed, resulting in fewer problems occurring.
- Central Heating (furnaces) and water heaters make up nearly 94% of all Customer Equipment Problem Program calls.
- In Winnipeg, the largest Customer Equipment Problem Program service usage is in neighbourhoods with a low income measure (LIM) of 11-20%. Neighbourhoods with low LIM percentages have higher household incomes.
- The annualized EFT requirements to provide Customer Equipment Problem Program service has declined by 57% since 2006. The actual EFT requirements fell from 9.2 to 5.2 during this period.
- As a seasonal program, the EFT requirements fluctuate from less than two (1.80) in the summer to nearly ten (9.8) during the heating season. Staff are trained for other work requiring a gas fitters license and the skills learned are applicable for diagnosing safety issues with equipment.
- As natural gas burning equipment has evolved more and more equipment from an increasing number of manufacturers has been installed. There are now furnaces from over 200 manufacturers and an estimated 7000+ models with different parts and designs. The influx of equipment poses challenges in stocking or obtaining parts as well as having technicians capable of servicing all these units.
- The number of calls referred to dealers by Manitoba Hydro Service personnel has doubled in the last 5 years
- There are over 1700 heating dealers listed in Manitoba Hydro's dealer registry and they are located in 66 cities and towns across the natural gas franchise area.
- Nearly 17% of Manitoba Hydro's Service person training program is geared towards supporting the Customer Equipment Problem Program service. A total of 12 of 72 training days directly support the program. Of that time, 10 days are related to issue identification and making safe and 2 days are dedicated to replacing parts.

Alternatives for Service

Manitoba Hydro currently provides a Customer Equipment Problem Program service but customers also access the heating dealer network to receive these same services. Heating dealers are utilized as a first choice through the provision of service agreements with customers who have either installed a new natural gas appliance or through maintenance of their equipment.

Under the EPP, Manitoba Hydro technicians will complete a diagnosis on the problem, make immediate safety repairs, provide operating advice and make referrals to heating dealers for more significant and complex repairs. With the technological changes in natural gas burning equipment and the deluge of products in the market, it has become increasingly difficult for technicians to rectify all problems. A scan of service orders revealed approximately 10% of calls are referred to dealers.

In Manitoba, heating dealers may or may not belong to the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI) Association. HRAI is a non-profit national trade association of manufacturers, wholesalers and contractors in the Canadian heating, ventilation, air conditioning and refrigeration (HVACR) industries that was founded in 1968. HRAI provides a website ([HRAI Manitoba Contractor Locator](#)) to assist customers in finding qualified local heating dealers. HRAI advocates for Manitoba Hydro to not provide Customer Equipment Problem Program service, as their member companies can offer these services in an open market.

A review of Manitoba Hydro's dealer listing found that there are over 1700 individual companies listed across 66 communities in the Province. These companies are installers of natural gas equipment and many of them also offer service agreements and attend to service calls. In many cases warranties are void if authorized dealers are not used to install replacement parts. Appendix C provides a listing of the heating contractors that have pulled permits in the past 5 years.

Background

Manitoba Hydro or more specifically Centra Gas has always provided an appliance repair service to natural gas customers with the cost of that service being recovered from customers. The service was traditionally known as Burner Tip service but is currently referred to as the Customer Equipment Problem Program. With the introduction of natural gas to the Province, the utility had an important role to play to ensure the safe use of its product. Historically, the program offered customer repairs to any natural gas appliance for problems diagnosed as safety-related or those primarily related to gas supply and safe combustion.

In 2013, the PUB approved an amendment to the program to exclude servicing non-essential gas burning appliances such as fireplaces, dryers, pool heaters and barbecues. The amendment focused the utilities activities on providing service for primary space and hot water heating appliances, such as furnaces, hot water tanks, gas-fired stoves and ranges.

Manitoba Hydro is 1 of 3 natural gas distribution companies in Canada offering an in rate appliance repair program. Most other utilities provide referral links for customers to access local heating dealer networks to address no heat situations.

Program Definition

Prior to the 2013 program amendment, the program included both white goods and core goods. White goods included the servicing of barbecues, clothes dryers, construction heaters, commercial heating, fireplaces, gas lamps, pool heaters, restaurant equipment, unit heaters, general equipment and the replacement of parts. This work included 48 work codes for white goods and 25 work codes for core goods.

Work codes for White Goods					
BBIS	BBQ Inspect	EQIS	Equipment Inspect	PHIS	Pool Htr Inspect
BBNH	BBQ No Heat	EQRE	Equip Repair	PHNH	Pool Htr No Heat
BBOH	BBQ Overheating	EQXN	Equipment Excess Noise	PHOH	Pool Htr Overheating
BBOT	BBQ Other	FPIS	Fireplace Inspect	PHOT	Pool Htr Other
CDIH	Clothes Dryer Insuff Heat	FPNH	Fireplace No Heat	REIH	Rest Equip Insufficient Heat
CDIS	Clothes Dryer Inspect	FPOH	Fireplace Overheating	REIS	Rest Equip Inspect
CDNH	Clothes Dryer No Heat	FPOT	Fireplace Other	RENH	Rest Equip No Heat
CDOH	Clothes Dryer Overheating	LPIS	Lamp Inspect	REOH	Rest Equip Overheating
CDOT	Clothes Dryer Other	LPOT	Lamp Other	REOT	Rest Equip Other
CNIS	Const Htr Inspect	LPRM	Lamp Replace Mantles	RPTS	Replace Parts
CNNH	Construction Htr No Heat	OAIH	Oth Appl Insufficient Heat	UHIH	Unit Heater Insuff Heat
CNOH	Const Htr Overheating	OANH	Other Appl No Heat	UHS	Unit Htr Inspect
CNOT	Const Htr Other	OAHO	Other Appl Overheating	UHNH	Unit Heater No Heat
HCIH	Comm Htg Insufficient Heat	OEIH	Oth Equip Insufficient Heat	UHOH	Unit Heater Overheating
HCIS	Comm Htg Inspect	OENH	Other Equip No Heat	UHOT	Unit Htr Other
HCNH	Comm Htg No Heat	OEOH	Other Equip Overheating		
HCOH	Comm Htg Overheating				

Since 2013, the Customer Equipment Problem Program specifically includes the servicing of core appliances (boilers, central heating, conversion burners, ranges and water heaters) for no heat, insufficient heat, excessive noise, inspection, and ‘other’. It also includes venting check and adjustments of heating fan controls. Specifically, these 25 orders are:

Work codes for Core Goods					
APXN	Appliance Excess Noise	CHAF	Central Heating Adjust Fan Control	VTCH	Venting Check
BLIH	Boiler Insufficient Heat	CHIH	Central Heating Insufficient Heat	WHIH	Water Heater - Insufficient Heat
BLIS	Boiler Inspect	CHIS	Central Heating Inspect	WHIS	Water Heater - Inspect
BLNH	Boiler No Heat	CHNH	Central Heating No Heat	WHNH	Water Heater - No hot water
BLOT	Boiler Other	CHOT	Central Heating Other	WHOT	Water Heater - Other
CBIH	Conversion Burner Insufficient Heat	CHXN	Central Heating Excess Noise	WTRL	Water Leaking
CBNH	Conversion Burner No Heat	RAIH	Range Insufficient Heat		
CBOT	Conversion Burner Other	RAIS	Range Inspect		
CBXN	Conversion Burner Excess Noise	RANH	Range No Heat		
		RAOT	Range Other		

Orders that were CGI (Can't Get In), cancelled or incomplete are not included in this analysis.

Program Data and Trends

1. Customer Equipment Problem Program Customers

A small portion of the Manitoba gas customer base utilizes the Customer Equipment Problem Program service (3% in 2017).

Table 1: Active Gas Customers utilizing the Customer Equipment Problem Program service ¹

Percent of Customers using Burner Tip service annually											
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Core Goods service	5.33%	5.30%	4.69%	4.78%	4.65%	4.27%	4.50%	4.43%	3.53%	3.30%	3.10%
White Goods service	0.69%	0.61%	0.52%	0.50%	0.49%	0.43%	0.28%	0.08%	0.08%	0.06%	0.07%
% of Customers using Burner Tip Service	6.02%	5.90%	5.22%	5.27%	5.13%	4.70%	4.78%	4.51%	3.62%	3.37%	3.16%

2. Customer Equipment Problem Program Service Orders

The number of Customer Equipment Problem Program calls has decreased by 42% in the past 12 years.

Table 2: Total number of completed Customer Equipment Problem Program orders per year by Customer Service Centre

Completed Burner Tip Orders by CSC												
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Winnipeg	16,319	16,931	16,794	14,681	14,892	14,626	13,127	13,434	12,672	10,048	9,467	9,074
CICC	8034	8205	8178	7234	7520	7253	6194	6443	6093	4865	4534	4327
FTGC	2847	2994	2830	2417	2406	2438	2226	2295	2056	1597	1577	1500
STBC	5438	5732	5786	5030	4966	4935	4707	4696	4523	3586	3356	3247
Rural	1,983	2,216	2,075	2,021	1,983	1,974	2,065	2,298	2,073	1,740	1,835	1,593
SELC	645	781	736	740	689	683	709	647	527	439	487	405
BRAC	309	288	257	270	248	269	276	324	287	236	277	209
MRDC	217	266	342	295	335	308	351	453	401	349	380	358
STEC	202	206	223	209	213	188	215	299	338	240	238	208
ARBC	141	184	146	140	133	131	132	111	109	115	72	80
PORC	110	99	63	59	68	85	126	145	130	110	121	100
DAUC	98	101	74	76	59	80	48	62	49	51	56	44
LDBC	76	73	54	61	91	67	80	75	77	53	52	52
VIRC	79	84	67	60	47	50	36	65	54	60	52	41
RUSC	50	64	38	33	36	30	28	28	41	30	37	32
NEEC	33	42	45	30	28	47	33	36	30	25	28	32
KILC	21	28	30	48	36	36	31	53	29	29	27	31
SWRC	0	0	0	0	0	0	0	0	1	3	8	1
THPC	2	0	0	0	0	0	0	0	0	0	0	0
TOTAL	18,302	19,147	18,869	16,702	16,875	16,600	15,192	15,732	14,745	11,788	11,302	10,667
INCM & CGI	822	782	689	499	496	366	355	342	346	380	335	329
Grand TOTAL	19,124	19,929	19,558	17,201	17,371	16,966	15,547	16,074	15,091	12,168	11,637	10,996

¹ In some instances when the gas meter is changed, an appliance requires servicing in order to perform the relight and an order is created for this white goods work.

Figure 1: Completed Customer Equipment Problem Program orders by year (Winnipeg/non-Winnipeg).

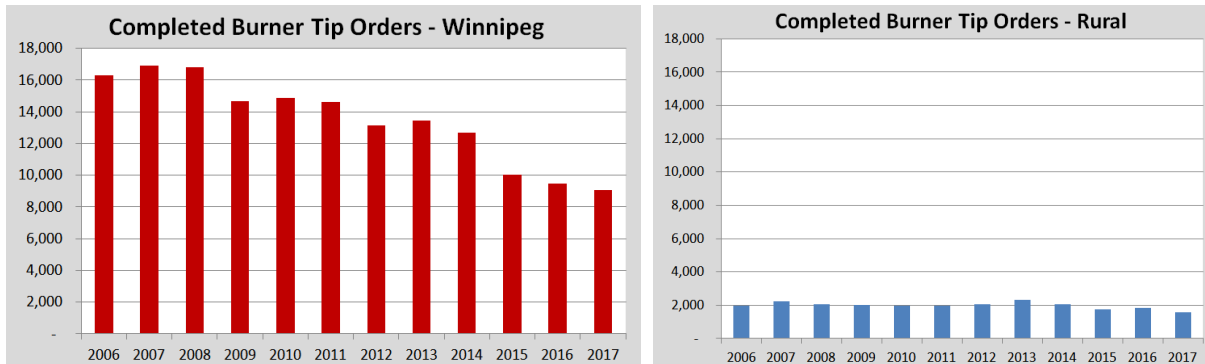


Figure 2: Percent of total completed Customer Equipment Problem Program orders by region for 2017.

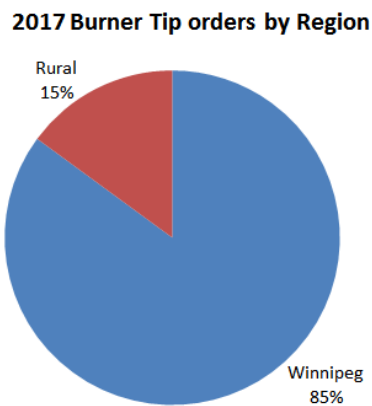


Figure 3: Percent of completed Core vs White Goods Customer Equipment Problem Program orders in the past 5 years

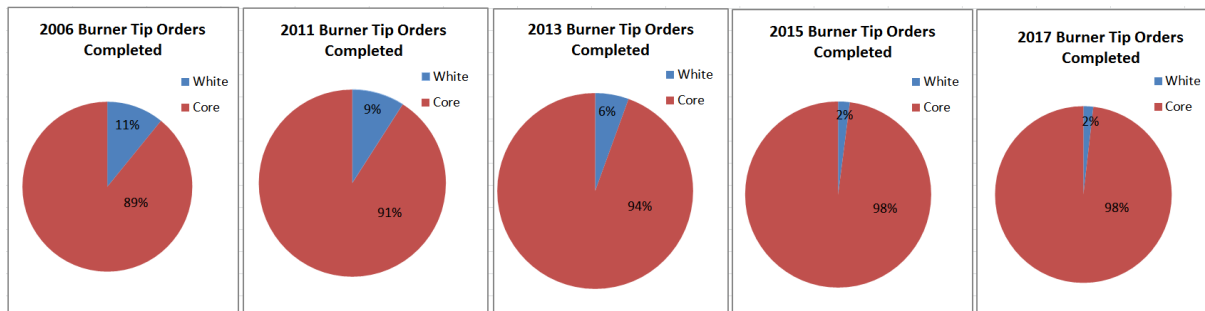


Figure 4: Twelve years of completed Core Customer Equipment Problem Program orders by month

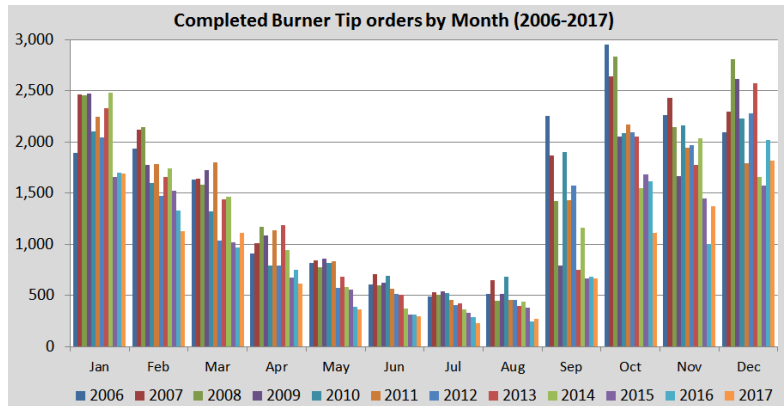


Table 3: Completed Customer Equipment Problem Program orders by appliance (Winnipeg/non-Winnipeg)

BTIP orders completed - by Appliance												
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Winnipeg	16,319	16,931	16,794	14,681	14,892	14,626	13,127	13,434	12,672	10,048	9,459	9,073
Central Heating	11,373	11,688	11,831	9,920	9,413	9,497	9,044	9,791	9,583	7,130	6,956	6727
Water Heater	2,450	2,601	2,500	2,608	3,196	3,265	2,672	2,516	2,509	2,366	2,020	1800
Fireplace	570	741	700	565	541	578	488	227	4	5	15	18
Water Leaking	388	442	452	501	527	273	91	108	64	68	47	54
Pool	364	396	271	219	205	194	162	130	0	0	5	0
Clothes Dryer	323	255	221	206	200	160	124	71	0	0	1	2
Replace parts	210	205	203	222	213	195	165	181	135	112	97	112
Boiler	189	189	271	156	197	206	165	214	230	164	150	201
Range	138	143	110	96	96	93	92	69	54	66	63	44
Restaurant equipment	76	72	49	44	42	29	18	27	5	6	3	2
Venting Check	45	49	38	31	164	43	27	39	36	40	43	82
Conversion Burner	72	29	34	38	29	26	21	15	20	9	10	4
Unit heater	51	49	43	32	19	18	19	23	23	24	23	15
Lamp	32	36	37	23	29	24	17	6	0	0	0	0
BBQ	27	23	13	10	15	13	14	8	1	0	3	4
Construction Heater	2	1	4	1	1	1	1	0	0	1	0	3
Equipment	6	8	10	2	3	6	3	3	3	9	1	0
Comm. Heating	1	3	4	3	0	1	1	0	0	40	21	5
Other Appliance	1	1	3	3	2	3	1	5	4	8	0	0
Appliance Excess Noise	1	0	0	1	0	1	2	1	1	0	1	0
Rural	1,983	2,216	2,075	2,021	1,983	1,974	2,065	2,298	2,073	1,740	1,835	1,593
Central Heating	1,268	1,411	1,372	1,297	1,225	1,234	1,305	1,649	1,557	1,299	1,403	1237
Water Heater	283	278	297	294	325	365	352	366	393	329	328	246
Fireplace	129	215	165	168	156	154	177	75	5	0	14	11
Water Leaking	2	7	5	7	5	4	8	5	3	4	7	6
Pool	38	37	27	28	21	16	20	27	0	0	1	0
Clothes Dryer	34	37	33	26	40	19	23	18	0	1	0	1
Replace parts	59	63	35	43	40	39	35	27	13	5	6	8
Boiler	28	11	25	17	19	18	20	27	30	14	19	16
Range	43	45	35	50	44	51	45	34	22	20	19	31
Restaurant equipment	17	16	16	10	15	16	18	12	12	8	2	2
Venting Check	27	34	17	36	55	15	24	25	11	40	19	25
Conversion Burner	3	6	2	3	1	2	0	0	1	0	0	1
Unit heater	12	6	12	11	5	9	7	12	11	7	6	6
Lamp	4	1	2	0	7	2	1	1	0	0	1	0
BBQ	4	7	5	4	1	5	2	1	0	0	0	0
Construction Heater	1	1	1	1	1	4	1	1	0	0	1	0
Equipment	24	32	19	19	18	14	19	12	8	6	3	0
Comm. Heating	3	3	5	1	1	3	3	2	1	5	5	3
Other Appliance	1	2	1	4	4	3	4	3	2	1	0	0
Appliance Excess Noise	3	4	1	2	0	1	1	1	4	1	1	0
TOTAL	18,302	19,147	18,869	16,702	16,875	16,600	15,192	15,732	14,745	11,788	11,294	10,666

3. Field Hours Spent on Customer Equipment Problem Program Work

The following are the estimated field hours spent on the Customer Equipment Problem Program service based on the average time per call (in hours) for each appliance category. Driving time of 15 minutes is added to each order at the bottom of the table and includes the number of EFTs that was required to complete this work annually. The average hours used on Customer Equipment Problem Program has dropped by 43% in 12 years.

Table 4: Hours to complete Core Customer Equipment Problem Program orders by appliance

Average Hours to complete Burner Tip orders by appliance												Avg onsite Time per call (hours)	
2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017		
Winnipeg	9,063	9,381	9,267	8,081	8,016	8,007	7,152	7,374	6,888	5,437	5,133	4,938	
Central Heating	6,255	6,428	6,507	5,456	5,177	5,223	4,974	5,385	5,271	3,922	3,826	3,700	0.55
Water Heater	1,201	1,274	1,225	1,278	1,566	1,600	1,309	1,233	1,229	1,159	990	882	0.49
Fireplace	319.2	415.0	392.0	316.4	303.0	323.7	217.3	127.1	2.2	2.8	8.4	10	0.56
Pool	291.2	316.8	216.8	175.2	164.0	155.2	129.6	104.0	0	0	4.0	0	0.8
Clothes Dryer	232.6	183.6	159.1	148.3	15.8	115.2	89.3	51.1	0	0	0.7	1.4	0.72
Replace parts	214.2	209.1	207.1	226.4	217.3	198.9	168.3	184.6	137.7	114.2	99	114.2	1.02
Water Leaking	171	194	199	220	232	120	40	48	28	30	21	24	0.44
Boilers	112	112	160	92	116	122	97	126	136	97	89	119	0.59
Range	90	93	72	62	62	60	60	45	35	43	41	29	0.65
Restaurant equipment	57.8	54.7	37.2	33.4	31.9	22.0	13.7	20.5	3.8	4.6	2.3	1.5	0.76
Conversion Burner	36	15	17	19	15	13	11	8	10	5	5	2	0.50
Unit heater	29	28	25	18	11	10	11	13	13	14	13	9	0.57
Venting Check	23	25	19	16	82	22	14	20	18	20	22	41	0.50
BBQ	14.9	12.7	7.2	5.5	8.3	7.2	7.7	4.4	0.6	0	1.7	2.2	0.55
Lamp	13.8	15.5	15.9	9.9	12.5	10.3	7.3	2.6	0	0	0	0	0.43
Construction Heater	1.1	0.5	2.1	0.5	0.5	0.5	0.5	0	0	0.5	0	2	0.53
Commercial Heating	0.5	1.6	2.1	1.6	0	0.5	0.5	0	0	20.8	11	2.6	0.52
Equipment	0.9	1.2	2.5	0.3	0.6	0.9	0.6	0	0.3	1.2	0.3	0	0.31
Other Equipment	1.1	1.4	0.7	0.4	0.4	1.1	0.4	1.1	0.7	1.8	0	0	0.35
Appliance Excess Noise	1	0	0	1	0	1	1	1	1	0	1	0	0.67
Other Appliance	0.4	0.4	1.1	1.1	0.7	1.1	0.4	1.8	1.4	2.8	0	0	0.35
Rural	1,320	1,468	1,370	1,331	1,295	1,289	1,348	1,524	1,344	1,140	1,211	1,060	
Central Heating	888	988	960	908	858	864	914	1,154	1,090	909	982	866	0.70
Water Heater	142	139	149	147	163	183	176	183	170	165	164	123	0.50
Fireplace	72.2	120.4	92.4	94.1	87.4	86.2	99.1	42.0	2.8	0	7.8	6.2	0.56
Pool	30.4	29.6	21.6	22.4	16.8	12.8	16.0	21.6	0	0	0.8	0	0.8
Clothes Dryer	24.5	26.6	23.8	18.7	28.8	13.7	16.6	13.0	0	0.7	0	0.7	0.72
Replace parts	60.2	64.3	35.7	43.9	40.8	39.8	35.7	27.5	13.3	3.6	6.1	8.2	1.02
Water Leaking	1	3	2	3	2	2	4	2	1	2	3	3	0.44
Boilers	21	8	19	13	14	13	15	20	22	10	14	12	0.74
Range	30	32	25	35	31	36	32	24	15	14	13	22	0.70
Restaurant equipment	12.9	12.2	12.2	7.6	11.4	12.2	13.7	9.1	9.1	6.1	1.5	1.5	0.76
Conversion Burner	2	4	1	2	1	1	0	0	1	0	0	1	0.67
Unit heater	6.8	3.4	6.8	6.3	2.9	5.1	4.0	6.8	6.3	4.0	3.4	3.4	0.57
Venting Check	14	17	9	18	28	8	12	13	6	20	10	13	0.50
BBQ	2.2	3.9	2.8	2.2	0.6	2.8	1.1	0.6	0	0	0	0	0.55
Lamp	1.7	0.4	0.9	0	3.0	0.9	0.4	0.4	0	0	0.4	0	0.43
Construction Heater	0.5	0.5	0.5	0.5	0.5	2.1	0.5	0.5	0	0	1	0	0.53
Commercial Heating	1.6	1.6	2.6	0.5	0.5	1.6	1.6	1.0	0.5	2.6	2.6	1.6	0.52
Equipment	6.8	8.1	5.3	5.0	4.7	3.7	5.6	3.1	2.2	1.2	1	0	0.31
Other Equipment	0.7	2.1	0.7	1.1	1.1	0.7	0.4	0.7	0.4	0.7	0	0	0.35
Appliance Excess Noise	3	4	1	2	0	1	1	1	4	1	1	0	1.00
Other Appliance	0.4	0.7	0.4	1.4	1.4	1.1	1.4	1.1	0.7	0.4	0	0	0.35
TOTAL Avg. Onsite Hours	10,384	10,849	10,637	9,412	9,311	9,297	8,501	8,899	8,231	6,578	6,344	5,998	
Total Avg. Hours with drive time (15 mins/order)	12,979	13,562	13,296	11,765	11,639	11,621	10,626	11,123	10,289	8,222	7,931	7,497	
Total Avg. Hours for CGled & INCM orders	822	782	689	499	496	366	355	342	346	380	335	329	
Grand Total Average hours	13,801	14,344	13,985	12,264	12,135	11,987	10,981	11,465	10,635	8,602	8,266	7,826	

4. Low Income Measure

The Low Income Measure (LIM) is generated by Statistics Canada by 3 digit postal code. It is a pure measure of relative low income, defined as half the median family income, adjusted for family size. A person whose income is below the LIM is said to be in low income. The following figure displays Winnipeg's 237 neighbourhoods shaded by the 2010 LIM values. Neighbourhoods with low LIM percentages have higher household incomes.

Figure 5: 2010 LIM by Winnipeg neighbourhood

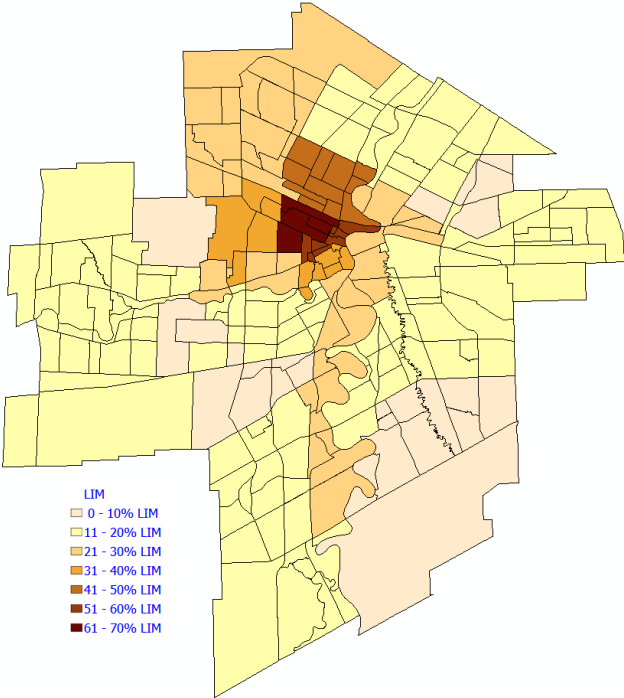
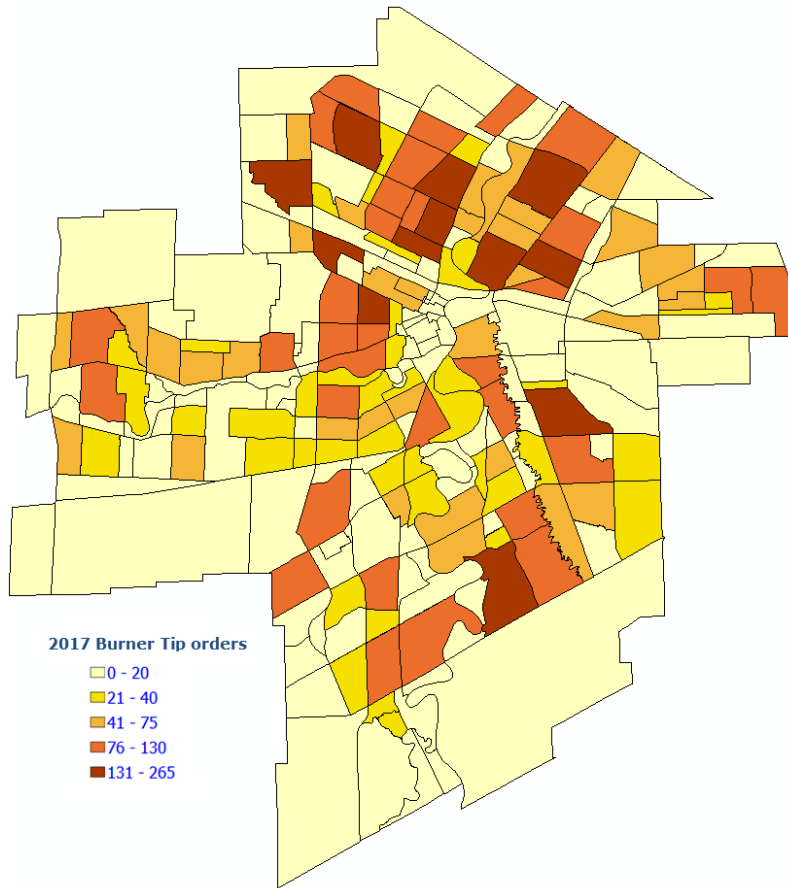


Figure 6: Volume of 2017 Customer Equipment Problem Program orders by Winnipeg neighbourhood



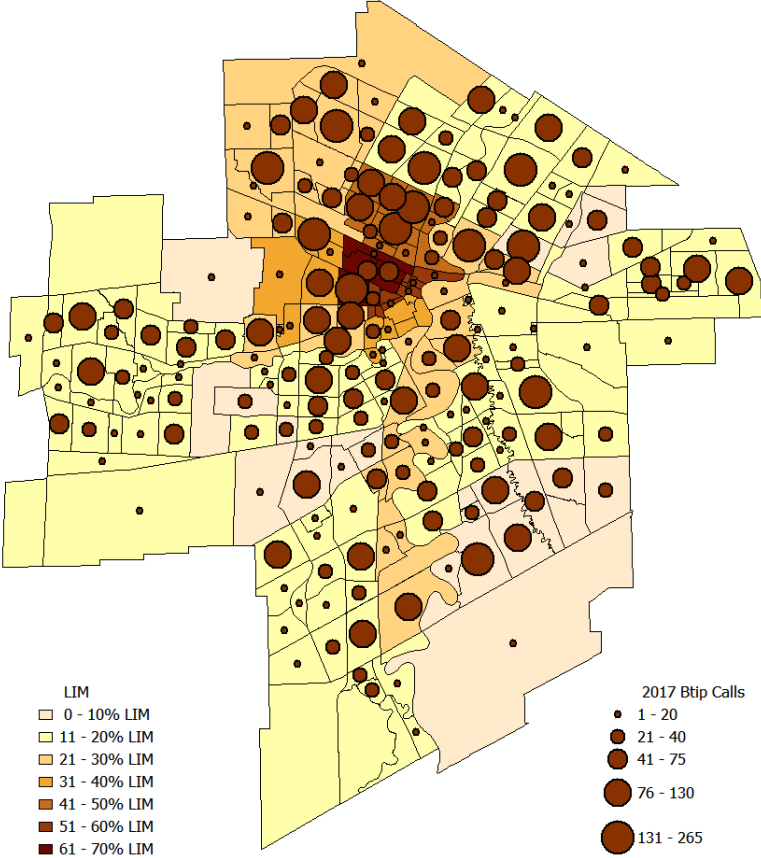
The past three years have been consistent with the largest Customer Equipment Problem Program usage being in neighbourhoods with an LIM of 11-20%. The fewest Customer Equipment Problem Program calls occur in neighbourhoods with the highest LIM (> 50%). LIM cannot be correlated to a specific customer. LIM is correlated by Statistics Canada to 3 digit postal codes which has been rolled down to Winnipeg neighbourhood boundaries for this analysis.

Table 6: Percent of Customer Equipment Problem Program service orders by LIM

Winnipeg LIM Identifier	Customer Equipment Problem Program Service Orders		
	2015	2016	2017
0 – 10%	10%	11%	10%
11 – 20%	48%	47%	47%
21 – 30%	25%	26%	27%
31 – 40%	4%	3%	3%
41 – 50%	10%	10%	9%
51 – 60%	1%	1%	1%
61 – 70%	3%	3%	3%

The following Winnipeg neighbourhoods map is shaded by LIM and overlaid with graduated symbols representing the quantity of 2017 Customer Equipment Problem Program calls.

Figure 7: 2017 Customer Equipment Problem Program calls overlaid on 2010 Low Income Measure



The percentage of Winnipeg Customer Equipment Problem Program customers located in high LIM neighbourhoods is low. This means that customers in the lowest income neighbourhoods are not the primary users of this service.

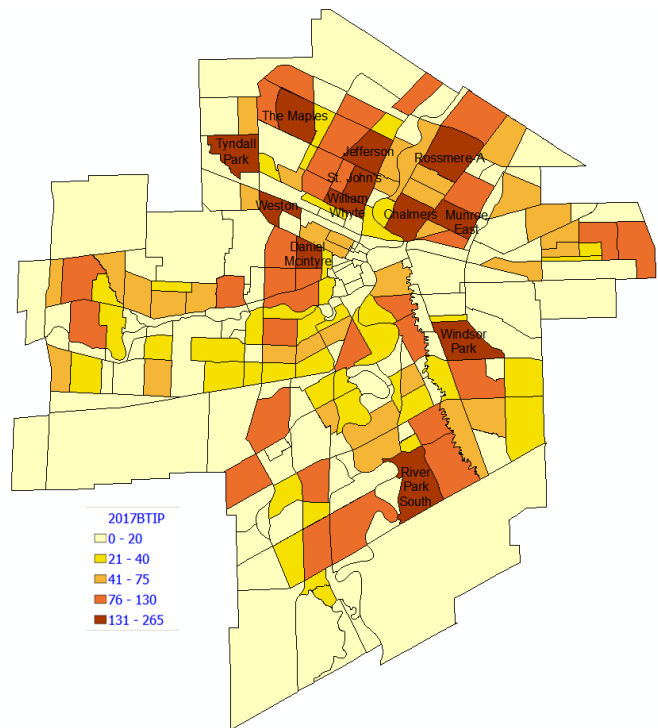
Table 7: Winnipeg neighbourhoods with high LIM and Customer Equipment Problem Program service usage

Neighbourhoods with High LIM	LIM	# of EPP service orders			# of Gas Customers	% of 2017 Gas Customers who used EPP
		2015	2016	2017		
Centennial	66%	42	32	51	445	11%
Daniel McIntyre	66%	177	179	185	2449	8%
Logan- C.P.R.	66%	11	7	4	254	2%
West Alexander	66%	83	73	61	1063	6%
Civic Centre	54%	0	0	1	28	4%
Central park	54%	3	3	0	90	0%
China Town	54%	0	0	0	43	0%
Colony	54%	0	0	0	35	0%
Exchange District	54%	3	2	2	166	1%
Portage-Ellice	54%	3	0	1	57	2%
Spence	54%	51	42	31	646	5%
South Point Douglas	54%	0	10	10	144	7%

These neighbourhoods with the highest LIM levels have the highest proportion of low income households (relative to the number of persons in the household that their income supports).

Table 8 and Figure 8: Winnipeg neighbourhoods with highest Customer Equipment Problem Program service usage

Neighbourhood	LIM	# of service orders		
		2015	2016	2017
Tyndall Park	22%	300	251	265
The Maples	23%	232	220	265
St. John's	45%	204	210	172
Chalmers	28%	199	165	174
Rossmere-A	17%	199	153	167
William Whyte	45%	184	177	167
Jefferson	16%	177	149	162
Daniel McIntyre	66%	177	179	186
Sargent Park	35%	167	120	106
Munroe East	10%	158	165	155
Windsor Park	12%	155	165	163
Fort Richmond	23%	151	126	122
River Park South	9%	143	169	138
Dakota Crossing	9%	135	122	111
Valley Gardens	17%	135	116	120
Weston	35%	132	121	140
Burrows Central	45%	127	137	114



5. Customer Equipment Problem Program EFTs

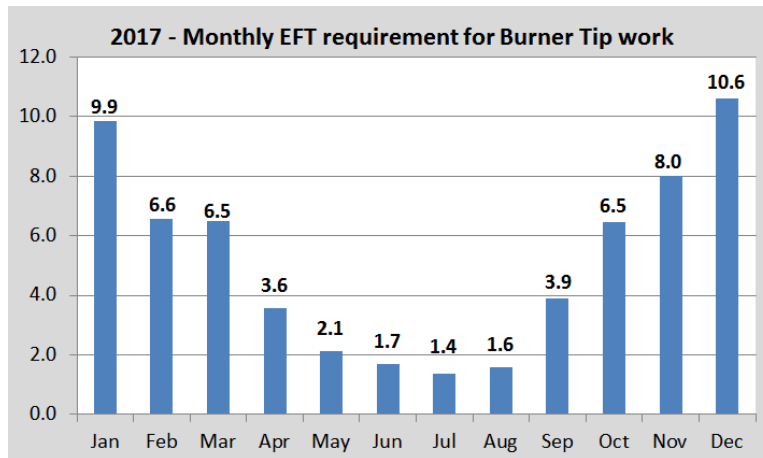
The number of EFTs needed to complete Customer Equipment Problem Program work has declined by 43% in the past 12 years.

Table 9: EFTs required for Customer Equipment Problem Program service based on workload

EFTs required to Complete Burner Tip Orders												
Year	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Winnipeg	8.204	8.456	8.298	7.187	7.139	7.041	6.326	6.527	6.093	4.888	4.437	4.437
Rural	0.997	1.107	1.025	0.989	0.951	0.950	0.995	1.117	0.997	0.846	0.827	0.783
Total EFTs	9.201	9.562	9.324	8.176	8.090	7.991	7.321	7.644	7.090	5.735	5.510	5.220

There is a seasonal demand for the Customer Equipment Problem Program service, with up to 10 EFTs required in winter months and less than 2 in summer months.

Figure 9: Monthly EFT requirement for Core Customer Equipment Problem Program service in 2017.



A total of 1500 available hours per employee per year (125 hours per month) was used to determine the number of EFTs required to provide the Customer Equipment Problem Program service annually based on an average number of available work hours.

6. Equipment

A significant number of appliances are serviced by Manitoba Hydro. The following table provides a breakdown of the number of different Manufacturers and appliance models currently installed in gas customer premises.

Table 10: Variety of manufacturers and models of currently installed appliances

Appliance	# of Mfrs	# of Models
Forced Air	217	7317
Water Heater	121	2103
Range	139	1405
Boiler	38	107
Conversion	13	31

7. Specialized Work

Manitoba Hydro will make referrals to heating dealers for more significant and complex repairs. While these referrals are not specifically tracked by Manitoba Hydro, the following is an estimate of the number of referrals made to heating dealers based on the field notes of Customer Equipment Problem Program orders.

Table 11: Core Customer Equipment Problem Program orders Referred to a Dealer

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total Btip orders	16,313	16,937	16,990	15,057	15,296	15,094	13,869	14,860	14,518	11,550	11,086	10,474
Dealer References	451	498	582	629	649	724	971	1222	1382	953	1070	1242
% Referred to Dealer	3%	3%	4%	5%	4%	5%	8%	9%	10%	9%	10%	12%

In addition to calls referred to heating dealers, some calls are closed as incomplete for a variety of reasons. Table 12 indicates the number of calls that were incomplete or CGI (Can't Get In).

Table 12: Annual Customer Equipment Problem Program orders closed as incomplete or CGI by service workers

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Total INCM & CGI	822	782	689	499	496	366	355	342	346	380	335	329

A review of the field notes on Customer Equipment Problem Program orders completed as "incomplete" revealed the following reasons: 15% cancelled, 8% dealer, 8% valve, 6.5% ignite, 3% flame, 2% sewage backup.

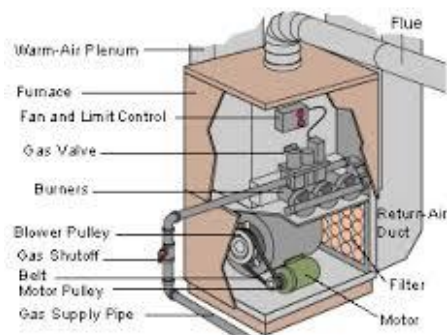
Appendices

Appendix A - The Evolution of Natural Gas Burning Equipment in Manitoba

Over the last 25 years, natural gas appliances have improved dramatically in design and the safety of the equipment. These changes pose challenges for the service persons working on this equipment today.

- 1) **Furnaces** – In the beginning “standard furnaces” had very basic components. These furnaces had minimal safety components compared to the modern furnace of today. The skill set required to fix these furnaces was quite basic, unlike today.

Standard Furnace

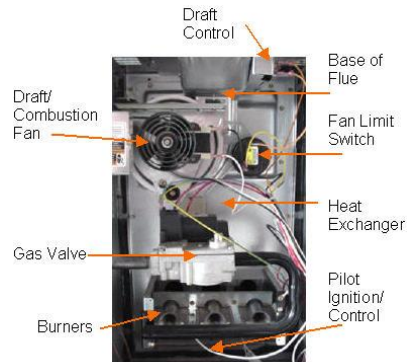


Issues with these standard furnaces could be rectified with generic parts from the wholesaler. It did not have to be specific parts from the manufacturer of the appliance.

After this furnace was out in the field for decades manufacturers started to build “new mid efficient furnaces”. Mid efficient furnaces had greater efficiency and more safety components than the previous standard furnaces. With mid efficient furnaces, combustion fans (ventor motors) were added to remove the combustion products from an appliance and send it up the chimney. The mid efficient furnace also started to incorporate circuit boards. The circuit boards were very basic and essentially controlled the fan control only. The new mid efficient furnaces were built with a separate ignition control module installed which was part of the flame monitoring control.

As time went on manufacturers realized they could reduce costs on these furnaces if the circuit board and ignition control module were incorporated into one circuit board.

Mid –Efficient Furnace



Mid Efficient Furnace

Wholesalers of these furnaces had to start carrying more specific parts for these furnaces and not just generic parts. Some of generic parts still available were gas valves, ignitors and pilot assemblies. As time went on even these generic parts started to dwindle.

High Efficient Furnaces

In the last 10 years, manufacturers were trying very hard to find ways to make more efficient furnaces and to be the first one to market to gain more market share. The motivation to be first to market created a lot of future problems. The product was not tested long enough to get all the problems rectified. New furnaces were coming out every year from these manufacturers with different designs. Manufacturers kept redesigning the furnace components to eliminate problems. Today's automobile industry has very similar issues.

To illustrate this diversity, there are 6 individual Keeprite "high efficient furnaces" on the market today.

- Two are Builder model furnaces – the builder wanted a cost competitive furnace to install in new homes without any fancy controls.
- Single Stage Furnace – Only comes on with one setting. On high at all times.
- Two Stage Furnace – More comfort in heating with two settings depending on how cold it is outside. This was great for spring and fall when you do not require a large heating load.
- Two Stage Furnace with DC motor – If you change AC current to DC current in these furnace blower motor, you get a lower electricity bill.
- Modulating and DC Motor – Top of line furnace, most comfortable furnace with cheaper electricity bill. Heat load modulates input.

Wholesalers are challenged to stock all the parts for these furnaces. Over the years there were too many models and wholesalers couldn't afford to hold all these products in stock. They are only carrying one or two of these parts at a time, and are often out of stock. The heating dealers are bringing out electric heaters for the customer until the parts come in. Some of the

heating dealers are also trying to hold parts but this becomes very expensive to do. In the example above with Keeprite; there are six high efficient furnaces from one manufacturer in this year's lineup. This is too many parts to stock for all of the furnaces from the past 20 years.

Manitoba Hydro can pick these parts up from the wholesaler during normal working hours, after hours we do not have access to all these wholesalers. As a result, Manitoba Hydro is limited in what it changes on these furnaces and often refer customers to the heating dealer if customers want heat immediately. Manitoba Hydro does not have the inventory to carry all these products.

The past ten years has seen an influx of equipment and each manufacturer has designed their equipment differently than the other manufacturer. One needs an excellent understanding of electrical knowledge and how each equipment manufacturer has designed their equipment. This is why Heating Dealers today are only carrying one or two manufacturers' equipment because they cannot be an expert in all of the equipment. Dealers are becoming "authorized dealers" specializing in a select group of equipment. Some equipment is working on different voltages than the typical voltage. Motors are working on DC current instead of AC current. Manufacturers have testing equipment that is designed for their specific equipment. Manitoba Hydro does not have diagnostic testing equipment compatible with all these different pieces of equipment. A current example of this is the DC motor.

Modern furnaces have self-diagnostics built into them. The unit conducts a self-check of all safety controls to make sure they are in the open or closed position before the unit starts. If something is wrong, they lock the system out and shut the unit down until it can be corrected. The new high end systems have talking thermostats that are programmed for the user. Thermostats are now available with WIFI communication.

The skill sets required to fix these furnaces have completely changed the industry today. It is almost impossible to have an excellent knowledge on all equipment. Manitoba Hydro does not have all the service manuals on these furnaces. Requests have been made to manufacturers for some of these manuals for these units, but they are constantly changing. Manufacturers are now charging for their service manuals and it can become very costly to purchase. There are just too many products out there to carry all these manuals. Manufacturers offer courses for the dealers that install their products.

The manufacturer sends out the technical service requirements with their installation manuals for these furnaces to apply the proper settings when the units are tested (input pressures, vacuum pressures settings, sequence of operation, etc). Usually the manual is not found by the furnace and the customer does not know where it is. Without the manual, it is difficult to diagnose the issue. Currently, a lot of furnaces do not have the typical voltage settings of 120 volt and 24 volt. Now they have 120 volt, 24 volt, 18 volt 12 volt, AC and DC voltage. You need to know the appliance that you are working with and the technical information to be able to diagnose the issues properly.

High Efficient Furnace



High Efficient Circuit Board



In the last 15 years, manufacturers were providing a one year parts warranty on their furnaces. Then a few manufacturers decided that they would give a five year warranty on parts. This stayed for a while. Then Goodman furnaces came into the market and were looking for dealers to install their furnaces. They gave their furnaces at a lower cost to dealers and offered a 10 year parts warranty. Lots of dealers left their manufacturers and started to sell Goodman products. The other manufacturers started to lose dealers and customers, prompting other dealers to offer 10 year parts warranty. This has been in place for about 10 years. Currently when a customer has an issue with their furnace, they will call their heating dealer that installed the furnace so they get the parts for free and only pay for the labour. This has made a big difference in servicing these furnaces. As such, it is likely that Manitoba Hydro will eventually only be looking at these furnaces after the 10 year warranty and probably by then the home owner will call the heating dealer whom they have developed a relationship.

- 2) **Boilers** – There have been a number of technological changes related to boilers. Mid efficient boilers, unlike furnaces, are still allowed to be installed in the Province of Manitoba. There are not a lot of residential high efficient boilers installed compared to furnaces, so the staff do not have the expertise on these new units. Most of the time the dealer is called for repairs to these high efficient boilers.

For mid efficient boilers, Manitoba Hydro still carries some of the parts but for most of the high efficient boilers we need to get the parts from the manufacturer. It is not feasible to carry an inventory of parts for these units.

The amount of residential boilers installed in Manitoba is quite low compared to furnaces. The low work volume makes it difficult to develop internal skill sets capable of servicing this equipment. In Manitoba there are not many dealers that specialize in residential boilers.

- 3) **Conversion Burners** – Conversion burners are concentrated in River Heights, West End, Elmwood and Ft. Rouge. Many of these boiler units were installed in the early 1900's and were

converted from coal to natural gas. It is difficult to obtain parts for these units and in many cases breakdowns have led to condemning conversion burners.

Homeowners are trying to keep conversion burners in order to avoid the huge cost of replacing these units. Many of these units are covered with asbestos which is another significant removal cost. At one time Manitoba Hydro used to service 5200 rental conversion burners; that numbers has steadily fallen to about 600. There are still a large number of units out there that are not rental units. The initial Burner Tip program focused on appliances such as conversion burners and it took a skilled technician to set up a conversion burner to achieve optimal efficiency.

Conversion burner furnaces - There are still quite a few conversion burner furnaces used in Winnipeg. The heat exchangers on these furnaces are about 1/4 inch thick steel and they have not cracked so they will be out there for quite some time. On some of these, there was a bleed line that was welded on the top of the heat exchanger and they used to crack which led to condemning the furnace. These units were mostly installed in the sixties and seventies and due to a lack of parts, the units are being retired.

- 4) **Water Heaters** – Twenty years ago water heaters were very basic. Usually the tank had a leak in it before any malfunctioning parts would appear. The main part failure was the thermocouple.

An explosion in a home in the U.S. where the pilot light from the tank ignited the gas accumulation coming up from the catch basin in the house led to a change in design. Manufacturers were then mandated to change the design of the tank because they wanted a flame arrestor built into the tank so it would keep the flame within the tank.

It is very difficult to get parts for these tanks and customers sometimes wait 3 weeks for the parts. A lot of the time they will install a new tank. The main controls cost between \$300 and \$500, almost the cost of a new tank. Wholesalers are not carrying these parts because the tank has a short life span and do not want these parts on their shelf.

- 5) **Ranges** - Ignition modules and igniters are the common issues with ranges. - As there are now a wide variety of range models and manufacturers, Manitoba Hydro does not repair many ranges annually. As there are so many different ranges, Manitoba Hydro is unsure of who the suppliers are and where to obtain parts.

Appendix B – Customer Equipment Problem Services offered by other major Canadian Utilities

British Columbia		
FortisBC	no	Maintenance by licensed natural gas contractor.
Pacific Northern Gas (PNG)	no	Maintenance by licensed natural gas contractor.
Alberta		
		Maintenance by licensed natural gas contractor. Inspect for safety only and will clean pilot light.
ATCO Gas	no	
AltaGas	no	Maintenance by licensed natural gas contractor.
City of Medicine Hat	no	Maintenance by licensed natural gas contractor.
Saskatchewan		
SaskEnergy	no	Maintenance by licensed natural gas contractor.
Manitoba		
Manitoba Hydro	yes	Customer Equipment Problem Program
Ontario		
Union Gas	no	Maintenance by licensed natural gas contractor.
Enbridge Gas Distribution	no	Maintenance by licensed natural gas contractor.
Utilities Kingston	no	Maintenance by licensed natural gas contractor.
Quebec		
Gazifere	yes	Gazifere technicians service natural gas appliances.
Energir	no	Maintenance by licensed natural gas contractor.
New Brunswick		
Enbridge Gas New Brunswick	yes	Respond to no heat and no hot water calls for primary services.
Nova Scotia		
Heritage Gas	no	Maintenance by licensed natural gas contractor.

Appendix C – Manitoba Heating Dealers who pulled permits in the past 5 years

1ST RATE PLUMBING	AGNEW TODD	APEX HEATING & AIR CONDITIONING
20 DEGREE MECHANICAL SERVICES	AGRICULTURE & AGRI FOOD CANADA	APH MECHANICAL
204 REFRIGERATION	AINSWORTH INC	APPLER MATTHEW
32 DEGREES REFRIGERATION	AIR WISE INC	AQUIN KENNETH
354 PLUMBING & HEATING	AIRE SERV OF WINNIPEG	ARAVENA MIGUEL
4 SEASONS INDOOR CLEAN AIR	AIR-RITE INC Refrigeration & Mechanical	ARMOUR PLUMBING AND MECHANICAL LTD.
6846051 MANITOBA LTD. - AIRE SERV OF WINNIPEG	WINDSTREAM HEATING & AIR CONDITIONING	ARMSTRONG NEIL
7 DAY HOME SERVICES LTD	AIRTRAX HVAC	ARNASON TREVOR
7339446 MANITOBA LTD	AK HEATING	ARRON REMPEL
A & B MECHANICAL LTD	ALARIE RYAN	ARTHURSON
A & J MECHANICAL	ALCOR MECHANICAL	ARTHURSON HEAT AND AIR
A & P PLUMBING & HEATING	ALEX MENZIES PLUMBING & HEATING	ASM MECHANICAL
A & R BROS PLUMBING & HEATING	ALEXIS FRANKLIN	ASPEN CREEK PLUMBING AND HEATING INC
A H CAIN & SON	ALI GAMAL	ASSINIBOINE PLUMBING & HEATING LTD
A H PLUMBING & RENOVATIONS	ALL BULLION PLUMBING & HEATING	ASSURED HEATING & AIR CONDITIONING
A P H MECHANICAL SERVICES LTD	ALL CITY WATER HEATER SERVICES	ATLANTEAN PLUMBING & HEATING
A PLUS WATER HEATERS	ALL DIRECT PLUMBING	ATLAS HEATING & SHEET METAL LTD
A.S.A.P HEATING & VENTILATION	ALL FIRED UP HVAC SERVICES	AUBIN RAYNALD
A1 RESCUE ROOTER	ALL GAS CONNECTIONS & A/C	B A HEATING
A2 VENTURES	ALL PIPE AND MECHANICAL LTD	B C PLUMBING & HEATING (1992) LTD
AA CLEAN LINE SEWER & DRAIN	ALL SHALE WESTERN	B D H SERVICES
ABCO SUPPLY & SERVICE LTD	ALLARD MAURICE L	B K FLEMING
ABILITY HEATING & PLUMBING INC	ALLARD ROBERT	B W HEATING
ABRAHAM JUSTIN	ALL-AROUND PLUMBING AND ELECTRICAL	B.A. HEATING
ABSOLUTE HVAC	ALLIED HEATING & COOLING	B.A. ROBINSON
ABSTRACT HEATING	ALLISON LINDSAY	BAART MICHAEL
AC ENVIRONMENTS LTD	ALLPRO MECHCANICAL	BADGER CREEK PLBG & HTG INC
ACCENT AIR	ALL-STEEL WELDING	BAETSEN TIMOTHY
ACCESS PLUMBING & HYDRONICS	ALSIPS BUILDING PRODUCTS & SERVICES	BAGE JUSTIN
ACCURATE HEATING & AIR CONDITIONING LTD	ALTVATER ROBERT	BAKER BRETT
ACTION MECHANICAL SERVICES LTD	AMBASSADOR MECHANICAL L.P.	BALCAEN & SONS
ADAM BEBBER	AMBIENT COMFORT SERVICES	BALDWINSON DENNIS
ADAMS PLUMBING & HEATING	AMER GLEN	BALL MECHANICAL SERVICES LTD
ADRIAN'S PLUMBING HEATING A/C CO	AMOS PLUMBING	BALLEGEER HEATING & A/C LTD
ADVANCE CONSTRUCTION INC	AMS PLUMBING & HEATING LTD	BALMORAL HVAC
ADVANCE MECHANICAL SERVICES INC	ANDERSON GREG	BANNISH DANIEL
ADVANCE PLUMBING INC	ANDERSON SCOTT	BARAN ADAM
AFM MECHANICAL SERVICES LTD	ANDRUSHUK RAYMOND	BARCOL CONTROLS LTD
AFTER HOURS PLUMBING & HEATING	ANDRUSHUK ROBERT	BARR MURRAY
AGASEA PLUMBING & HEATING	ANDRYO MIKE	BARRY'S PLUMBING & HEATING
AGASSIZ PLUMBING & HEATING	ANGLE PLUMBING & HEATING	BARRY'S PLUMBING & HEATING (ROBERTSON)
AGC HEATING & COOLING	ANNABLE BRUCE	BASAROWICH MICHAEL
AGGREKO CANADA INC	ANYTHING MECHANICAL	BAUER KURT

BAYVIEW PLUMBING & HEATING LTD	BLOOMFIELD JOHN	BROOKS BRYANT
BCG MECHANICAL	BLUM ANDREW	BROOKS PLUMBING & HEATING
BEAR CREEK PLUMBING	BNR MECHANICAL	BROUWERS BERNIE
BEAUCHAMP PLBG & HTG	BODIN	BROWN GILBERT
BEAUSEJOUR SHEET METAL	BOERSMA PLUMBING & HEATING	BROWN PAUL
BEAZLEY SPENCER	BOISSEVAIN PLUMBING & HEATING LTD	BROWN'S PLUMBING & HEATING LTD
BEBBER ADAM	BOLA JONATHON	BRUCE ANNABLE CONTRACTING
BECKSTEAD MAXWELL	BOONE ADAM	BRUCE MICHAEL
BEHUN JEFFREY	BOONNGUM GENE	BRUNEL DUPUIS
BEILBY MURRAY	BORNHORST MECHANICAL INC	BRUNETTE JO-EL
BELANGER RON	BORRA TED	BSD SOLUTIONS
BELISLE CLAYTON	BORSBOOM ALLAN	BUCHANAN SHAWN
BELL CHRIS	BORSBOOM WILLIAM	BUECKERT ERNIE W
BEMISTER ADAM	BOTTERILL PLUMBING AND HEATING	BUHLER AIR
BENDERSKI SHAUN	BOUCHER WILFRED	BUHLER H VAC LIMITED
BERARD PATRICK	BOULDER CREEK MECHANICAL	BUHLER KEVIN
BERGEN GORDON	BOULET SHEET METAL LTD	BUHLER RYAN
BERGEN HEATING & AIR CONDITIONING	BOUNDARY PLUMBING & HEATING	BULLEE
BERGERON ALAN	BOURGEOIS JOEL	BULLER
BERGMAN	BOURGOUIN ROBERT	BURDETT GRAHAM
BERGMANN PLUMBING & HEATING LTD	BOWER CHAD	BURJAN KEVIN
BERGSON BRENT	BOYCHUK TED	BURJAN ROBERT
BERKOWSKI DARYLL	BOYKO MICHAEL	BURNS LYLE A
BERN-STEIN PLUMBING	BRADEN	BURR DAVID
BESIGNANO DAN	BRAGA EDWARD	BUSH CHANDRA
BESSANT	BRANDON HEATING & PLUMBING(1998)LTD	BUTTARI
BILCOWSKI LEONARD	BRANDON REGIONAL HEALTH CENTER	C & R SHEET METAL LTD
BILL'S PLUMBING & HEATING	BRANDON SCHOOL DIVISION	C & T RENTALS
BINDA RICK	BRASCHUK	C F MECHANICAL SERVICES
BIRCH'S PLUMBING & HEATING	BRAUSE MARK	C I R MECHANICAL INSTALLATIONS
BIRD SEAN	BREMAULT RAYMOND	C M S SERVICES INC
BIRDROSS REFRIGERATION AND ELECTRICAL	BRETECHER MAURICE	C R NOTLEY ELECTRIC & HEATING
BISON MECHANICAL LTD	BRETON	C.R. INSTALLATIONS
BISON PLUMBING & HEATING LTD	BRETT DYCK	CABRAL BRIAN
BJK MECHANICAL	BREWSTER'S PLUMBING	CAIN & SONS
BJORNSON ERIC	BRIAN'S MECHANICAL SERVICES LTD	CALL BRUCE PLUMBING HEATING & A/C
BLACK & MCDONALD LTD	BRICK	CALWOOD PLUMBING & MECHANICAL
BLACK HVAC	BRIGGS ADAM	CAMERON HARDY
BLACK KYLE	BRIGHT OAKS MECHANICAL	CAMERON TAYLOR PLUMBING & HEATING
BLACK SHEEP PLUMBING	BROGGY MATT	CAMERON'S HEATING & A/C LTD
BLACKBIRD	BROOKDALE PLUMBING & HEATING LTD	CAMFAY
BLACKSTACK PLUMBING & HEATING INC	BROOKER COLE	CAMPBELL ADAM
BLF ENTERPRISES	BROOKMAN BOILERS	CAMPBELL DEREK
BLOCKER KEN	BROOKMAN JAMES	CAMPBELL'S PLUMBING & HEATING LTD

CANADIAN MECHANICAL SPECIALTY	CIUPAK DALE	COX MATTHEW
CANN	CJ'S MECHANICAL LTD	CREEKSIDE PLUMBING & HEATING
CAN-PRO HEATING & VENTILATION	CKK HEATING & COOLING	CRERAN KYLE
CAN-WEST PLUMBING LTD	CLARK JAMES	CRESCENTWOOD PLUMBING
CAPITAL MECHANICAL HEATING AND COOLING LTD	CLAUDE DESMARAIS ENTERPRISE	CRESENZI EMILIO
CAPITOL PLUMBING	CLAYTON WIEBE	CRONSHAW STEVEN
CARBERRY SANDHILLS ELECTRIC LTD	CLEAN LINE SEWER AND DRAIN	CROSS PLUMBING & HEATING
CARE MECHANICAL	CLIFFORD SCOTT	CROWN MECHANICAL
CAREVIC JOVAN	CLIMACO HEATING & AIR CONDITIONING INC	CSIPAI LEVI
CARNEGIE DAVE	CLIMATE CHANGE HEATING	CSIZMADIA MARK
CARRIERE RENAY	CLOUTIER ROGER	CULL GARRY
CARSWELL VINCENT	CMO HVAC - WINNIPEG HEATING & COOLING	CUSSON JEFF
CASI COOLING & HEATING	CMS SERVICES INC	CUSTOM VAC LTD
CASTANEDA EDDY	COBBE'S PLUMBING & HEATING LTD	CUTTING EDGE HEATING & VENTILATION
CATBAGAN RODNEY	COBBLESTONE HOMES	D & D MECHANICAL
CB4 PLUMBING & HEATING	COLIN'S MECHANICAL SERVICE LTD	D & L SERVICING
CENTRAL FLOW LTD	COLLAO SHAUN	D B HIGGINBOTHAM ELECTRIC LTD
CENTURION PLUMBING	COLLEGE ELECTRIC LTD	D J HEATING & AIR CONDITIONING
CERTIFIED HEATING & AIR CONDITIONING	COLLUM PLUMBING & HEATING	D K J MECHANICAL (2000) INC
CESTINA SANTOS	COMFORT HEATING LTD	D L F MECHANICAL LTD
CFB MECHANICAL	COMFORTEC	D M CUSTOM METAL WORKS
CHABLUK SCOTT	COMMERCIAL COMFORT INC	D ZINIK & SONS
CHABLUK'S PLUMBING & HEATING	COMPLETE HVAC SERVICE INC	DAENICK
CHAMBERS BRENDAN	CONDIE PLUMBING & HEATING LTD	DAHLE ERIC
CHARETTE	CONQUEST MANUFACTURING LTD	DAN BRANDSON RAC SERVICES LTD
CHARTRAND JOHNATHON	CONSTANT HOME COMFORT	DANLEY MARK
CHARTRAND MIKE	CONTROL WRIGHT INC	DANRON ENTERPRISES INC
CHEGUIS AND SON PLUMBING & HEATING LTD	CONTROLLED AIR LTD	DAN'S CUSTOM VENTILATION
CHEGUIS PLUMBING & HEATING	COOK DOUGLAS	DANYLCHUK NICHOLAS
CHEN MUHUA	COOL AIR HVAC	DARRYL SCHMITZ
CHERCOE JAYSON	COOMBS KEITH	DAVID HENDERSON'S HTG & PLBG 1997
CHERCOE JORDAN	COOMBS SCOTT	DAVID HENDERSON'S HEATING & PLUMBING 1997
CHRAPCHYNSKI DARRYL	COOMBS WAYNE	DAVID JORDAN
CHRISTIANSON TIM	COPPER CANYON CORP	DAVIDSON REFRIGERATION & HEATING
CHUCK'S REFRIGERATION SERVICE	COPPERWOOD ENT	DAVIS ADAM
CHUDYK JON	CORNELIUS THIESSEN	DAY TREVOR
CHUTE, JEFFREY	CORNELL BROS 1971 LTD	DBR MECHANICAL
CIMCO REFRIGERATION	CORNWELL ANTHONY	DBS ENTERPRISES
CISTARELLI JOE	CORY	DBS VENTILATION
CITY OF BRANDON	COURCELLES MARCEL	DC AIR SERVICES/FURNAIR
CITY OF WINNIPEG - BUILDING SERVICES DIV	COURTO MECHANICAL SERVICES	DE VRIES LEONARD
CITY OF WINNIPEG - WATER & WASTE	COUTU RODNEY	DEAN'S PLUMBING & HEATING
CITY OF WINNIPEG TRANSIT	COWLTHORP CARMEN	DEERFIELD MECHANICAL
CITY WIDE WATER HEATER SERVICE	COX LAWRENCE	DELL PLUMBING & HEATING

DELMAR'S PRO HARDWARE	DOOLEY CHRISTOPER	EEKHOUDT DANIEL
DELORAIN PLUMBING & HEATING	DORNBUSH RYAN	EG PENNER BUILDING CENTRE
DELORME NICK	DORNEZ LUC	ELECTRIC
DEMETRIOFF DARREN	D'OTTAVIO MIKE	ELEMENT HEATING & A/C
DEMMERS EVAN	DOUG'S PLUMBING HEATING & A/C	ELIAS PAUL
DEMONE ROBERT	DREGER PLUMBING & HEATING	ELLIOTT
DENBY GLEN	DROZDA ANDREW	EMBASSADOR MECHANICAL
DENISET SHEA	DU LE MECHANICAL	ENER COMFORT
DENKO MECHANICAL LTD	DUB T MECHANICAL	ENNS SCOTT
DEPARTMENT OF NATIONAL DEFENCE	DUBOIS	ENVIRO FORCE GROUP INC.
DERKSEN MECHANICAL SERVICES	DUCHARME STEVE	ERFLE DAN
DERKSEN PLUMBING & HEATING LTD	DUDECK DAMIEN	ERIC PORTER
DESHARNAIS	DUDLEY JEFF	ERICKSON BRETT
DESHARNAIS MARK	DUGARD PLUMBING	ESPENELL
DESHARNAIS ROB	DUKE PLUMBING	ESSAR NICHOLAS
DESHARNAIS, MARC	DUMOND PETER	ESSAR NICK
DESMARAIS SERGE	DUNCALFE GEOFF	EURO MECHANICAL
DESROCHERS DENNY	DUNCALFE JARED	EVANS GEORGE
DESROSIERS DANIEL	DUNCALFE MECHANICAL LTD	EVANS PLUMBING & HEATING LTD
DESROSIERS GABBY	DUNHAM ROBERT	EVEN FLOW PLUMBING & HEATING
DESROSIERS KEVIN	DUNSMORE'S HEATING	EVENSON
DESROSIERS, DANIEL	DUPUIS BRUNEL	EVEREST HEATING & COOLING LTD
DEVINE KEVIN	DUPUIS MATTHEW	EVERGREEN SCHOOL DIVISION
DI MARCO CARMINE	DUQUETTE ROY	EXCEL PLUMBING & HEATING LTD
DIBLEY JORDAN	DURSTON PLUMBING & HEATING	EXPERT AIR CO LTD
DIBLEY PLUMBING & HEATING	DURWARD PHILIP	FAIR SERVICE HEATING & A/C
DICK	DUSIK JORDAN	FALK JIM
DICKERSON CHAD	DUSOME KENNETH JASON	FANGMANN CALVIN
DICK'S HEATING	DYCK RYAN	FAST PLUMBING & HEATING LTD
DIMARCO GABRIELE	DYKES RUSSELL	FATHOM PLUMBING AND HEATING
DIOGO PAUL	DZIADEK TERRANCE	FEDERATED CO OP LTD BRANDON
DION ROLAND	DZIADYK RON	FEHR DAVID
DIRECT HEATING & COOLING	E & E HEATING & AIR CONDITIONING	FEHR PETER
DIXON	E G PENNER BUILDING CENTRES LTD	FEHR SHEET METAL LTD
DKJ MECHANICAL 2000 INC.	E J DIXON HEATING	FERN'S HEATING LTD
DLF MECHANICAL LTD	E MELNICK SERVICES	FIDEL
DM CUSTOM METALWORKS	E R REFRIGERATION	FIRE AND ICE HEATING AND A/C
DMS INDUSTRIAL CONTRACTORS INC	EAST KILDONAN PLUMBING & HEATING INC	FIREPLACE SERVICE DEPARTMENT
DOERKSEN	EAST SIDE VENTILATION LTD	FIRMAN ROBERT
DOERKSEN DAVID	EAST ST. PAUL MECHANICAL SERVICES LTD.	FIRST CALL PLUMBING AND HEATING
DOERKSEN TIM	EB SHEET METAL LTD	FIRST CHOICE HEATING & COOLING LTD
DOLL JEREMY	ECO-SIDE PLUMBING & HEATING	FIRST CHOICE MECHANICAL
DONOVAN TURNER	EDWARD MELMICK	FIVE E MECHANICAL HEATING & A/C
DON'S MECHANICAL	EDWARDS PLUMBING & HEATING	FIX IT RIGHT

FLAME & COMFORT	FURTADO ACACIO	GLADU JASON
FLATT DWAYNE	FUTURE MECHANICAL SYSTEMS LTD	GLOBAL MECHANICAL INC
FLEMING WILLIAM	G & E SCHROEDER PLMBG & HTG (2012) LTD	GLT SERVICE PROFESSIONALS INC
FLETT LEROY	G & E SCHROEDER PLUMBING & HEATING	GOBEIL DEREK
FLOCKNER PLUMBORUM	G & G INDUSTRIAL HVAC	GOBEIL ED
FLOW-RITE VENTILATION	G&G INDUSTRIAL	GOBEIL ROGER
FONTAINE MATTHEW	G.R.P. MECHANICAL	GOLD LEAF HVAC
FONTAINE RAYMOND	GAGNON DENNY	GOLD STAR PLUMBING & HEATING
FORCE GROUP INC.	GALLAS MATTHEW	GOLDEN HEATING & COOLING LTD
FOREFRONT PLUMBING AND HEATING	GALLERY MECHANICAL	GOLDENVIEW PLUMBING & HEATING
FORSYTHE DARCY T	GALLOP JEFF	GONSALVES BLAKE
FORSYTHE ROB	GAMACHE WILLIAM	GOODFELLOWS PLUMBING & HEATING
FORT GARRY HEATING & AIR CONDITIONING	GANDER MICHAEL	GOODMAN DANIEL
FORT GARRY PLUMBING & HEATING	GARDEN TODD	GOODSON HEATING & COOLING
FOTTY KENNETH E	GARIEPY RENE	GOODSON PAUL
FOUR BROTHERS MECHANICAL	GAROFALO ALDO	GOODWIN DARREN
FOUR SEASONS MECHANICAL	GARTH THE PLUMBER	GOODWIN LEVI
FOURNIER JORDAN	GAS PRO	GORDON
FOX DEREK	GATEWAY MECHANICAL SERVICES INC	GOSSELIN KELLY
FRAESE CHRISTOPHER S	GATIN	GRAAL MECHANICAL LTD
FRANCEY LEONARD	GAUDET TRAVIS	GRAHAM MECHANICAL
FRANK JUSTIN	GAUMOND ROBERT	GRAHAM RICHARD
FRANK'S PLUMBING & HEATING	GAUTHIER DWAIN	GRAND VALLEY MECHANICAL LTD
FRANZEN KEVIN	GAUTHIER ROBERT	GRAPH MECHANICAL ADVICE CONTRACTOR
FRED'S REFRIGERATION & MECHANICAL	GELINEAU WADE	GRASSLAND HVAC
FREEZEN COOLING & HEATING INC	GENE BOON GUM	GREEN BRUSH ZOLL INC.
FRIESEN HEATING AND AIR CONDITIONING	GEOFFREY DUNCALFE	GREEN MATTHEW
FRIESEN PLUMBING & HEATING	GEORGE SMITH PLUMBING & HEATING	GREENFIELD LOGAN
FRIESEN TROY	GEORGE STRANGE LTD	GREENWOOD
FRONTIER REFRIGERATION, HEATING & A/C	GEOTEK SERVICE GROUP	GREGORCHUK MECHANICAL
FROSTBITE MECHANICAL	GERBRANDT	GRIFF
FROSTMEC SERVICES	GERBRANDT DANA	GRIMARD
FROSTY'S HEATING AND COOLING	GERDAU	GRIMSTRUP JASON
FUL-FLO INDUSTRIES	GERRITS DAVE	GROSENICK LAWRENCE
FUNK MATT	GERRITS DAVID	GROUND UP PLBG, HTG & WATER TREATMENT
FUNK MITCHELL	GESSNER	GRYMEK DUANE
FURLAN JOSHUA	GIBBS PLUMBING & HEATING	GRYMUZA RAFAL
FURLONG TIM	GILLAM DAN	GUARINO DEAN
FURNACE EXPERTS	GILLES MECHANICAL	GUILD
FURNACEMAN	GILLES PAMBRUN	GULBINSKI JORDAN
FURNACEMAN RIGHT TIME HEATING & AIR CONDITIONING	GILLES PLUMBING & HEATING	GUY'S MECHANICAL LTD
FURN-AIR HEATING, COOLING & PLUMBING LTD	GINTER TERENCE WILLIAM	H LEE'S MECHANICAL
FURNASMAN NEW HOMES	GINTHER GEORGE ALLAN	H.K.E PLUMBING & HEATING LTD
FURNASMAN'S ONE HOUR HEATING & A/C	GIRARDIN	H.LEE MECHANICAL

HADLEY	HOGAN	INTEGRITY PLUMBING AND HEATING SERVICES
HANOVER PLUMBING & HEATING	HOGGARTH	INTERLAKE HEATING & VENTILATION CO LTD
HANOVER SCHOOL DIVISION	HOKANSON WARREN	INTERLOCK MECHANICAL LTD
HANUSIC DAMIR	HOLE	INTERMOUNTAIN A/C & HTG LTD
HANUSIC SLADJAN	HOLMES DEREK	INTERMOUNTAIN REFRIGERATION
HARDER BRADEN	HOLOWKA DENNIS	ION PLUMBING AND HEATING
HARDY CAMERON	HOME DEPOT	IQ MECHANICAL
HARMS ADAM	HOME SERVICE PLUS WINNIPEG HTG & COOLING	IRLAND'S CONTRACTING LTD
HARRIS BRENT	HOME TOWN HEATING & COOLING	IRVINE DAVID
HARRIS BRETT MITCHELL	HOMETOWN MECHANICAL	IRVINE TERRY
HARSTONE HEATING & A/C LTD	HONEYWELL LIMITED	IZO MECHANICAL
HARTFORD GAS HEATING	HONZ MECHANICAL LTD.	J & B HEATING
HASSETT MECHANICAL	HOOPER JOE	J & R REFRIDGERATION
HASSETT STEVEN	HORODECKI LYLE	J B PLUMBING & HEATING
HAWES JONATHAN	HOT SHOTS PLUMBING AND HEATING	J HANSEN & SON LTD
HAY CHRIS	HOUSTON HEATING & COOLING	J K REFRIGERATION & HTG
HAY HEATING & A/C INC	HOWELL MECHANICAL CO LTD	J M BALCAEN & SONS LTD
HAYWOOD CALVIN	HPI LTD	J N R REFRIGERATION HTG & A/C INC
HEARTLAND PLUMBING & HEATING	HUGHSON ADAM	J.C.V. MECHANICAL INC.
HEGLIN HEATING	HUGHSON HEATING	J/K REFRIGERATION
HEGLIN MARK	HUMPHREYS RICHARD	JABS DANIEL
HEINRICHS MECHANICAL LTD.	HUMPHREYS DONALD	JACKMAN GARY
HEINRICHS THOMAS	HUMPHREYS HEATING	JACK'S PLUMBING & HEATING
HENRY CHARLES D	HUNT'S PRO HARDWARE	JACKSON BUSTER
HENRY'S PLUMBING & HEATING	HUOT ADAM	JACKSON F PAUL
HEPPLES CAMERON	HUPPE JAYSON	JACKSON KERRY
HEPPLES RORY	HUPPE ROBERTA	JACOB KLASSEN
HERITAGE HEATING & COOLING LTD	HURRICANE HILL CONSTRUCTION	JACOBS ROBERT
HEY	HUSSAIN BURHANUDEEN ZAKIR	JAGO
HIEBERT LUKE	HUTTON	JAMES WALL PLUMBING LTD
HIEBERT MARK	HUYGHE RUSSELL	JANZEN DAVID
HIGH EFFICIENCY HEATING INC.	HVAC SUPPLY	JAROSZ DAVID
HILDEBRAND GLEN	HVACE MECHANICAL SERVICE SPECIALISTS	JASON PLUMBING & HEATING
HILLSIDE PLUMBING & HEATING	HYATT'S PLUMBING & HEATING	JASON ZULYNIAK
HINCE PAUL	ICE AGE MECHANICAL	JAZ PLUMBING & HEATING
HINCH J WARD PLUMBING & HEATING	ICEBERG REFRIGERATION	JAZ PLUMBING AND HEATING
HIRST GORDON T	ICS GROUP	JD HVAC & RENOVATION
HJL WELDING AND MECHANICAL	IMBROGNO TONY	JEANSON ANDRE
HLEE MECH	INDOOR COMFORT AIR WORKS	JEANSON EDOUARD (ED)
HOBOROUGH GREG	INFINNITY PLUMBING & HEATING	JEANSON PLUMBING & HEATING
HOBOURGH DARRELL	INGRAM'S PLUMBING & HEATING LTD	JEFFERY KYLE
HOFER	INKSTER HEATING & COOLING	JENNINGS CAMERON
HOFFMAN ERIC	INNES MICHAEL	JERRY'S PLUMBING SERVICE
HOFFMANN KLAUS	INNOVATIVE PLUMBING & HEATING	JIM HARPER

JIM'S HEATING & PLUMBING	KERELUK MARK	KROEGER JACOB
JK HEATING & COOLING INC	KERGER RICHARD	KRUEGER RON
JKS PLUMBING & HEATING LTD	KERVEL	KRUSHEL GLEN
JM BALCAEN & SONS	KEVINS HTG	KRYSHKA KENNETH
JOB JEFF	KEYSER CRAIG	KRZYSZTON ANDRZEJ
JOHN'S PLUMBING HEATING & AIR-CONDITIONING LTD	KEYSTONE CONTRACTORS & BUILDERS	KUCZERA CURTIS
JOHNSON AARON	KEYSTONE HEATING LTD	KULAKOV
JOHNSON CONTROLS CANADA L P	KHK CONTRACTING	KURUS PETE
JOHNSON JOE	KIDD	KUSMACK JORDAN
JOHNSON MATTHEW	KIHN PLUMBING & HEATING LTD	KUYPERS ED
JOHNSTON DAVID	KILMISTER BRIAN	KUZENKO DAVE
JOHNSTON DOUG	KIMBERLEY'S KLEANING	KWS MECHANICAL
JOHNSTON TROY	KING'S SEPTIC	KYRZYK JIM
JOLICOEUR ROLAND	KINNAVANTHONG KONG	KYRZYK LARRY
JONAH JOHN	KIRKFIELD HEATING & A/C -WINNIPEG	L A HEATING & AIR CONDITIONING
JONASSON ADAM	KIRKLAND RYAN	L G CENTRAL ENERGY
JORUNDSON MATTHEW	KIRKPATRICK SEAN	LA SALLE MECHANICAL
JUBY DAVE	KIRKUP PLUMBING & HEATING	LAB PLUMBING & HEATING
JULIUS BRIAN	KJARTANSON JASON	LABOSSIERE GEORGES
JWH WATER SERVICES LTD	KLASSEN METAL	LACHUTA ADAM
K C & B	KLAUSE JUSTIN	LACHUTA LOUIS
K K PLUMBING & HEATING LTD	KLEIN HENRY	LADOUCEUR JUSTIN
K KNOX PLUMBING & HEATING	KLETKE BRUCE	LAFOND ANDRE
K.H. HVAC	KLP PLUMBING & HEATING LTD	LAFRENIERE JOE
KAATZ DONALD A	K-MAR REFRIGERATION	LAFRENIERE ROBERT
KAHULA KAREL	KNIGHT PLUMBING & HEATING	LAI WEI SHENG
KALTENTHALER ANTON	KNOX	LAKEW ABEBE
KALUZNIAK	KOKAN DON	LAMONTAGNE JOSHUA
KAMINSKI	KOLA PLUMBING LTD	LAMOUREAUX TONY
KASUNIC JOE	KONDRA	LANCE WAGNER PLUMBING & HEATING LTD
KAY FOUR PROPERTIES	KOOLERS REFRIGERATION LTD	LANDMARK MECHANICAL LTD
KAY JUSTEN	KORVING RICHARD	LANDSHARK DESIGNS
KAZUK JEFF	KOSINSKI PLUMBING & HEATING	LANG CLAY
KC & B GEOEXCHANGE	KOST CHRIS	LANGRELL DARRYL
KEATING MECHANICAL SERVICE INC	KOSTER PETE	LAPORTE MICHAEL
KEENA ART	KOSTIUK BRYCE	LARRY B SWAIN ENTERPRISES
KEIR PLUMBING AND HEATING LTD	KOTOWICH RON	LARRY UNRAU PLUMBING & HEATING
KELLY DOUG	KOTZ DON	LARRY WEBER PLUMBING
KELLY GORDON	KOVACEVIC ZDENKO	LAVALLEE DEAN
KELLY KRISTOPHER	KOZAK PLUMBING & HEATING LTD	LAVALLEE RICHARD
KELLY QUINN	KRAHN BROS SHEET METAL LTD	LAVICH JOE
KELLY'S HEATING & AIR CONDITIONING	KRASEY JOSHUA	LAVICH JOSEPH
KEN KOTOWICH	KREVCO LIFESTYLE INC	LAVICH MARK
KEN SCHLAG PLUMBING & HEATING	KREVCO POOL & SAUNA	LAVOIE ALAN

LE MAZING MECHANICAL	LUPRYPA DAN	MATTHEW MECHANICAL LTP
LEACH WARREN	LUSSIER BERTRAND	MATTIS STEWART
LEAFLOOR JOEL	LUXOR PLUMBING & HEATING	MAX WIENS PLUMBING & HEATING
LEATHWOOD KEVIN	LYNCH KELLY	MAXIMUM HEATING & COOLING
LEATHWOOD STEVEN	LYNN'S Heating, Cooling, Sewer & Drain	MAXWELL ANDREW
LECLERC OLIVER	M & N MECHANICAL	MAZUR RICHARD
LEDESMA ELGIN	MABON DONALD	MBM PLUMBING
LEDESMA ERWILL	MACAULAY NIGEL	MARTHUR PLUMBING LTD
LEDESMA WHARREN	MACDONALD JAMES	MCBURNAY
LELOND RALPH	MACDONALD ROBBIE	MCCAFFREY & SON
LEMAZING MECHANICAL	MACGREGOR MECHANICAL	MCCARTHY CRAIG
LEMIEUX KEVIN	MACHINE WELLNESS CENTRE	MCDONALD GARTH
LEMOINE RICHARD	MACKAY MATTHEW	MCEWEN DOUGLAS
LENGSAVATH CHITTAKONE	MACKIE RYAN	MCINTOSH MATHEW
LENNON	MACMILLAN RONALD	MCKECHNIE MICHAEL
LEN'S HEATING	MAC-TOWER INC.	MCKEE LORNE M.
LEPLA DALE	MAHONEY GREG	MCKELVY PLUMBING & HEATING
LERAY ALLIN	MAIK NEUSELD	MCKENZIE HEATING & COOLING
LERAY JARED	MAJOR TOM	MCKINNEY BRIAN
LESAGE DARREN	MALCOLM DWIGHT	MCLACHLAN JOHN
LETKEMAN RYAN	MANGELL PLUMBING & HEATING	MCLAUGHLIN SHAWN
LEVESQUE DANIEL	MANGELL ROBIN	MCLEAN HAROLD
LG CENTRAL ENERGY DISTRIBUTION LTD.	MANITOBA GREEN RETROFIT INC	MCLEAN ROBERT
LI JIAN FENG	MANITOBA THEATRE CENTER	MCLEOD MECHANICAL
LIEBRECHT	MANUEL OLIVER	MCLEOD SHAUN
LITWIN KYLE	MAPLE LEAF PORK	MCMECHAN PLUMBING & HEATING
LIU GE	MARASIGAN (TA INKSTER HEATING AND COOLING)	MCMILLAN BRADLEY
LLOYD CAMPBELL PLUMBING & HEATING	MARCHAND ROB	MCMILLAN RICHARD
LLOYD JULIAN	MARINO MARK	MCMUNN & YATES
LOBLAWS INC	MARION RAY	MCNEIL RYAN
LOBREAU	MARK ANTHONY	MCQUAY RICH
LOCKERBY	MARK EWERT	MDR HEATING & COOLING
LOCKHART PLUMBING & HEATING	MARK HIEBERT	MEADES DALE
LOEWEN JASON	MARKMANN MATTHEW	MECHANICAL SOLUTIONS
LOEWEN LANDON	MARQUETTE STEAMFITTERS LTD	MEG CONSTRUCTION INC
LOEWEN MECHANICAL LTD	MARQUIS PETIT	MEILLEUR ADRIAN
LOHRE PETER	MARSHALL KEVIN	MEILLEUR JARED
LORD SELKIRK SCHOOL DIVISION	MARSHALL SEAN	MELNICK EDWARD
LORNE CHURA PLUMBING	MARTIN JACK	MEL'S HEATING & A/C SERVICES
LOWE MECHANICAL SERVICES LTD	MARTIN PAUL	MERIDIAN PLUMBING AND HEATING
LT HEATING	MARTINE	MERV'S PLUMBING & HEATING
LUFF GLENN	MARTIN'S HEATING AND CONSTRUCTION	METRO MECHANICAL SERVICES
LUI	MARUSHCHAK IHOR	MG ELECTRICAL/MECHANICAL SERVICES LTD
LUPINETTI ANTONIO	MATHESON JAMEY	MIKE'S PLUMBING & HEATING

MIKKELSEN KEITH	NELSON DAVE	OLSON KEVIN
MIKKELSEN-COWARD & CO LTD	NESBITT JIM	OLSON PLUMBING & GENERAL CONTRACTING
MILLER LINDSAY	NESBITT'S TOWN & COUNTRY PLUMBING	ON TIME ELECTRIC PLUMBING HEAT & A/C
MILLER, MARTIN N	NEUFELD MAIK	ONGENAE DEREK
MILLERS SHEET METAL	NEUFELD STAN	ONSITE SHEET METAL
MILLS HENDRIK	NEWTON MECHANICAL	OPEN COUNTRY MECHANICAL & ELECTRIC LTD
MINER PLUMBING & HEATING	NEXSTAR MECHANICAL SERVICES LTD	ORCHARD ROD
MIRANDA CARLOS	NICHOL	OSWALD CAMERON
MISCHUK PLUMBING & HEATING	NICHOLAS ESSAR	OWEN KYLE
MITCHELL JUSTIN	NICOL SCOTT	OWNER/OCCUPANT
MITCHELL N MOTION PLUMBING & HEATING	NIELSON RYAN	OZUK
MK PLUMBING & HEATING LTD	NIKONCHUK PETER	P & J PLBG & HTG 1988 LTD
MMI CONSTRUCTION	NJ'S HOME SERVICE	P J CONSTRUCTION
MND PLUMBING & HEATING	NOBLE Heating Refrigeration & A/C Ltd	P K PLUMBING SERVICES
MOAR'S PLUMBING & HEATING	NOBLE PLUMBING LTD	PADUCHOWSKI, JERRY
MODRZEJEWSKI GERARD	NOLETTE DANNY	PALIDWAR, KEVIN
MONARCH LANDSCAPING	NORDAN MECHANICAL	PALM ROBERT
MONARCH MECHANICAL SERVICES INC	NORIS APPLIANCE SERVICE	PALMER CHRISTOPHER
MONCADO VITO	NORM'S HEATING	PALMERTON, JONATHAN D
MONDOR TERRY	NORRIS APPLIANCES	PALMISANI FILIPPO
MONIS DANNY	NORTEC ELECTRIC	PAMBRUN FRANCOIS
MONKMAN RYAN	NORTECH MECHANICAL	PAMBRUN GILLES
MONTGOMERY KELLY	NORTH 49 Heating & Air Conditioning	PAMBRUN GUY
MOORE DARREN	NORTH COUNTRY PLUMBING HEATING & A/C	PAMBRUN PIERRE
MOROZ RENE	NORTH HILL PLUMBING & HEATING	PAO GEORGE
MORROW PLUMBING & HEATING	NORTH MOUNTAIN WELDING	PAO REMIGIO
MOSKAL MITCH	NORTH WEST VENTILATION	PAO ROLLY
MOSTOWAY EVAN	NORTHECH MECHANICAL	PARADOSKI KEN
MOULDEN DALLAS	Northland Plumbing & Heating(1990) LTD	PARAMOUNT MECHANICAL SERVICE LTD.
MOUNTAINVIEW SCHOOL DIVISION	Northwest Ventilation & A/C(1977) LTD	PARAMOUNT SERVICES LTD.
MR FURNACE HEATING & COOLING LTD	NORTHWEST WATER SYSTEMS	PARISIEN CHRIS
MR WATER HEATER	NORTHWINDS REFRIGERATION	PARKSIDE HEATING
MR. FURNACE HTG & A/C	NORWOOD HEATING LTD	PARRY DANIEL
MUELLER DIETER	NOTARIANNI JOE	PARSONS PLUMBING & HEATING CO LTD
MUELLER ROBERT	NOVA STAR REFRIGERATION	PASSANTE DAVID
MULLIN PLUMBING & GEO THERMAL LTD	NRG MANAGEMENT	PASTUCK CHRIS
MYKE'S PIPES PLUMBING & HEATING	OAKBANK HVAC	PASTUCK MICHAEL
NADEAU JASON	OAKBANK PLUMBING	PATELLA EMILIO
NAJIBI NASIRULLAH	OLDENBURG CRAIG	PATTYN ERIC
NATE PLUMBING & HEATING	OLENDER BRUCE	PAUL TREVOR
NATIONAL REFRIGERATION & HEATING LTD	OLIVEIRA CARLOS	PAUL WILLEMS INC.
NAULT YAN	OLIVIER DAMIEN	PAUL'S PLUMBING & HEATING
NAVITKA KRIS	OLLIES PLUMBING & HEATING	PAULSEN ELECTRIC
NEEPAWA PLUMBING AND HEATING (1979) LTD	OLSEN MARC	PAVKOVIC OGNJEN

PAWLUK KEN	PIPER'S PLUMBING & HEATING	QUALICO DEVELOPMENTS (WINNIPEG) LTD
PAYANDEFAR	PLAN B PLUMBING LTD	QUALITY MECHANICAL SERVICES LTD.
PAYNE BILL	PLATINUM PLUMBING & HEATING	QUALITY TOUCH PLUMBING & HEATING
PD MECHANICAL	PLB ELECTRICAL SOLUTIONS	QUANE WAYNE
PDF MECHANICAL	PLOSS PLUMBING & HEATING	QUANE'S PLUMBING & HEATING
PEACOCK	PLUMBING PLUS OF ALTONA LTD	QUEREL RAY
PEAK VENTILATION	PLUMBING SOLUTIONS	QUESNEL DAVID
PEARSON PLUMBING	PLUMB-X PLUMBING INC	QUINN ENTERPRISES
PEG CITY HVAC	POIRIER	QUINN KELLY
PELLAERS VENTILATION INC	POLAR PLUMBING & HEATING LTD	R & M HOMES
PEMBINA TRAILS HEATING & COOLING	POLAR VAC	R & M PLUMBING & HEATING LTD
PEMBINA VALLEY PLUMBING & HEATING	POLLON'S PLUMBING & HEATING	R & R MECHANICAL
PENGELLY CHRIS	POLMAN Heating & Air Conditioning	R E S MECHANICAL
PENGELLY CHRISTOPHER	POLSON ELECTRIC	R G SALES COMPANY LTD
Penguin Heating & Cooling Technology ES INC	POPOVIC, MIKE	R J L HEATING & A/C
PENNARUN VINCE	PORTER ERIC	R M B PLUMBING & HEATING
PENNER	POUTEAU CORY	R R HEATING & COOLING SERVICES
PENNER HVAC LTD	PRAIRIE FIREPLACES LTD	R S WILLIAMS MECHANICAL
PENNER JORDAN K	PRAIRIE HOME COMFORT	R&R MECHANICAL
PENN-LITE ELECTRICAL & MECHANICAL INC	PRAIRIE HVAC INC	RAC SERVICES LTD
PERCIVAL DANNY	PRAIRIE MOUNTAIN HEALTH	RACE SHAWN
PEREZ MICHAEL	PRAIRIE MOUNTAIN HVAC/R	RADFORD STEPHEN
PERRY ROBERT	PRAIRIE PLUMBING & HEATING	RAF GRYMUZA
PERRY'S HEATING AND AIR CONDITIONING	PREFERRED HEATING & COOLING	RAHIM ANDRE
PESCITELLI DENIS	PREFERRED PLUMBING PLUS	RANDALL PLUMBING & HEATING LIMITED
PETER MARTINE PLUMBING & HEATING	PRETTIE JEFF	RANDAR REFRIGERATION SERVICES INC
PETERS FRANK	PREVOST KEITH	RANDY WALL PLUMBING & HEATING
PETERS FRED	PRICE TREVOR	RANKINE MATT
PETERS KEITH	PRIME TIME HEATING & COOLING	RANSOM RICK
PETERSON DOUG	PRINGLE'S PLUMBING & HEATING LTD	RANSOME HVAC
PETERSON GERALD	PRIORITY PLUMBING & HEATING	RAY JONES
Peterson Heating & Air Conditioning Ltd	PRO MECHANICAL PLUMBING & HEATING	RAY'S FIREPLACES
PETERSON REFRIGERATION	PRO WESTERN MECHANICAL LTD	RAZAR CONSTRUCTION
PETE'S PLUMBING & HEATING INC	PROCESS COMBUSTION SYSTEMS INC	RAZAR CONTRACTING SERVICES LTD
PETIK WALTER	PROCOPIO DAMIAN JR	RDH PLUMBING
PETIT MARQUIS	PROKOPETZ JOHN	RDR PLUMBING & HEATING
PETRIE CHRIS	PROLINE HEATING & AIR CONDITIONING	REA JAMES
PG PLUMBING & HEATING	PROTEC PLUMBING & HEATING LTD	RED RIVER PLUMBING & HEATING
PH MECHANICAL LTD	PROVINCIAL HEATING & COOLING INC	REFRIGERATION
PHAR SIDE MECHANICAL	PRO-WESTERN MECHANICAL LTD	REGAL HEATING & AIR CONDITIONING
PHASE 1 HEATING Plumbing & A/C LTD	PTC CONSTRUCTION	REID ADAM
PHILIPPE GILLES	PULSE HEATING	REID DONALD
PHILLIPS KRIS	PYRAMID HEATING & SHEET METAL LTD	REID TIMOTHY
PINNACLE HVAC	Q.T. MECHANICAL SERVICES	REID WAYNE

REIL PLUMBING & HEATING	ROLLY'S MECHANICAL SERVICES INC	SAWLER JUSTIN
REIMER ELECTRIC	ROMANIUK DARCEY	SCANLON DEAN
REIS TYLER	ROMEO LANTANO	SCANLON MIKE
RELIABLE HEATING & A/C LTD	ROMYN PLUMBING & HEATING LTD	SCHADE VINCE
RELIANCE SUPERIOR HEATING AND A/C	RON WAHOSKI PLUMBING & HEATING	SCHAFFER SHAWN
RENOFIX Maintenance & MECHANICAL SERVICES	RONCIN GERALD	SCHALLA KEVIN
RENTZ RANDY	RONGAVILLA PHILLIP	SCHEPER
RESCUE ROOTER	ROTO ROOTER	SCHKAWRITKA ROBERT
RESKO GREGG	ROTTCHER WALTER	SCHLICHTING ERNEST
RES-TECH SERVICE LTD	ROUGEAU DAN	SCHMIDT DAVID
REUTCKY JASON	ROUGEAU DANIEL	SCHMIDT HEATING & COOLING
REUTLINGER KARL	ROY	SCHOLL TODD
REVAMP INC	ROYAL FLUSH PLUMBING	SCHRADER
REYNOLDS	ROYAL MECHANICAL SOLUTIONS INC.	SCHROEDER BILL (WILHELM)
RGC PLUMBING	ROY'S REFRIDGERATION	SCHULZ FRANK
RIBBLE SCOTT	RR HEATING & COOLING	SCHULZ MATTHEW
RICHARDS HOME APPLIANCE	RRM MECHANICAL	SCHULZ PLUMBING & HEATING
RICHARDSON DANNY	RRR HEATING & VENTILATION	SCINOCCA DEREK
RICHARDSON GEOFF	RS WILLIAMS MECHANICAL	SCOTT WILLIAMS PLBG & HTG INC
RICHIE & PERRON PLBG & HTG LTD	RSW MECHANICAL	SECURE PLBG & HEATING
RICHIE MECHANICAL SERVICES INC	RUECKERT	SEFA HAKI
RICK STULMAN	RUPPENSTEIN KEN	SEIDLER JASON
RIDDELL'S PLUMBING & HEATING LTD	RURAK TODD N	SELKIRK PLUMBING & SUPPLY
RIEGER DAMIEN	Russell Food Equipment (Manitoba Ltd)	SEMKIW WILLIAM
RIQUIELME MARCELO	RUSSELL GORD	SERV-ALL MECHANICAL SERVICES LTD
RITCHIE & PERRON PLUMBING & HEATING LTD	RYCKMAN PLUMBING & HEATING	SERVICE RIGHT NOW
RITCHOT NICHOLAS	RYDEN MARCO	SESAK
RIVARD BRIAN	RYDZ DANNY	SHARP PLUMBING & HEATING
RIVERBEND HEATING & AIR CONDITIONING LTD	RS PLUMBING & HEATING CO LTD	SHAVER STEPHEN
RIVERVIEW PLUMBING & HEATING	SABOURIN LOUIS	SHEBRY Refrigeration & Air CONDITIONING LTD
RMB PLUMBING & HEATING	SADOWSKI RICHARD	SHERIDAN, KEVIN
ROB MARCHAND	SALNIKOWSKI PAUL	SHERSTY RICK
ROBBINS	SAM MANAGEMENT INC	SHERWOOD DEVELOPMENTS
ROBERT'S PLUMBING & HEATING	SANDS KEVIN	SHEWFELT'S PLUMBING & HEATING LTD
ROBERTSON BRIAN	SANFORD SHEET METAL	SHIELDS PLUMBING AND HEATING
ROBERTSON STEVE	SANKAR KEVIN	SHIMCO PLUMBING
ROBIN GROUETTE	SANTOS CESTINA	SHIRAN ALLAN
ROBINS PAUL	SANTOS OCTAVIO	SHMON KEVIN
ROCAN COLIN	SANTOS ROBERT	SHORTY'S PLUMBING & HEATING INC
ROCHON JASON	SARGENT TODD	SHUPENIA GREG
ROCKLEY	SARTE HEATING & COOLING LTD	SHYMKO KELLY
RODGERS GREG	SAULT BYRON	SHYMKO PLUMBING CO.
ROGERS PLUMBING & HEATING	SAWATZKY GLEN	SIEMENS BUILDING TECHNOLOGIES LTD
ROLLINS MERVIN	SAWATZKY'S APPLIANCE	SIEMENS PLBG & HTG

SIGNATURE PLUMBING & HEATING	ST ADOLPHE HEATING(1994) LTD	SWAIN LARRY B
SIGUA RAMON	ST BONIFACE HEATING	SWAN-PAS REFRIGERATION & A/C
SIGURDUR DALLAS	ST LAURENT JEFF	SYDORKO STEVEN
SIGVALDASON MICHAEL	ST PIERRE BRYAN	SYROTA ROBERT
SILVER CREEK MECHANICAL	ST VITAL PLUMBING & HTG CO LTD	SYSTECH MECHANICAL SERVICES LTD
SILVESTRI MARCO	STANDARD AERO LTD	T & M PLUMBING & HEATING
SIM ENTERPRISES LTD	STANDARD MECHANICAL SYSTEMS LTD	TAILLIEU
SIMARD	STARS PLUMBING & HEATING	TAIT RYLAN JAMES
SIMPLY GREEN HOME SERVICES MB INC	STELAIR VENTILATION LTD	TAKAGI KEVIN
SINGTHONG TOMMY	STEINER PLUMBING & HEATING LTD	TALLADEGA ENTERPRISES
SINNOCK MATTHEW	STEMASZAK	TANG HONG
SIOUX REFRIGERATION & A/C	STEPHEN SHAVER	TARDIFF JULIEN
SKINNERS RESTAURANT	STEPHENS D'ARCY	TARONNO
SKOMOROWSKI	STERLING PLUMBING & HEATING LTD.	TAUBER STEPHEN J
SKORUPSKI GRZEGORZ	STERZER BRIAN	TECH-AIR LTD
SKROMEDA SHEET METAL	STEVENSON DOUGLAS	TECH-POL MECHANICAL
SKUBOVIUS R DANIEL	STEVENSON MIKE	TEICHRIEB PETER
SLEGERS HAROLD	STEWART MARK	TEMPRITE HEATING & COOLING
SLUSARCHUK MARTIN T	STIFTER IAN	TENCH PLUMBING & HEATING LTD
SMART MANUFACTURING INC	STOEHLER JEFF	TERECK PETER
SMART SHAUN	STOESZ PAUL	TERRY IRVINE
SMART TECH HEATING & AIR CONDITIONING	STRONY MOUNTAIN INSTITUTE	TESSAIR SHEET METAL
SMITH D. ALLAN	STORNEL	TETRAULT PATRICK
SMITH DWIGHT	STOWE ROBERT	THAT PLUMBER GUY
SMITH GREG	STRANGE	THE FURNACE COMPANY INC.
SMITH GREGORY	STRAUB BARRY	THE FURNACE EXPERTS
SMITH KEVIN	STREAMLINE MECHANICAL INC	THE GASMAN
SMITH MARK	STUART Olson Dominion Construction	THE HIGH EFFICIENCY HEATING COMPANY
SMITH MATT	STURGEON CREEK PLUMBING AND HEATING LTD	THE HVAC GROUP TH INC
SMITH ROBERT	SUB COOL LTD	THE PROUD PIPER
SMITH WILLIAM	SUMMER COMFORT HEATING & COOLING	THE TIN SHOP
SNOWMAN PLUMBING & HEATING	SUN ICE MECHANICAL	THERM-ALL INC
Snowmen Heating and Air Conditioning	Sunnyday Heating and Air Conditioning	THERMO Solutions Heating & Air Conditioning
SOBERING JOE	SUNRISE HEATING & COOLING LTD	THIESSEN CHRIS
SOKOLOSKY JEFF	SUNSHINE PLUMBING & HEATING 2010 LTD	THIESSEN CORNELIUS
SOLYPA BRENT	SUNSTRUM MARK	THOMAS BURKE
SOTO HERNANDEZ ENRIQUE	SUPER PLUMBING & HEATING LTD	THOMPSON Bros Electrical, Heating & Cooling
SOUTH CENTRAL PLUMBING & HEATING (1999)	SUPERIOR GENERAL PARTNER INC	THOMPSON ROBERT
SOUTH CITY ENTERPRISES LTD	SUPERIOR HEATING AND AIR CONDITIONING	THOMSON GLENN
SOUTH KEY HEATING AND COOLING	Superior Propane Inc-Winnipeg Market	THOR PLUMBING & HEATING LTD
SOUTHERN Comfort MECHANICAL INC	SUTHERLAND CHAD	THRELFALL JUSTIN
SOVEREIGN CONSTRUCTION	SUTHERLAND RYAN	TIM'S PLUMBING AND HEATING
SPENCER & THIESSEN LTD	SWACK JASON	TIP TOP PLUMBING AND HEATING
SPRINGFIELD PLUMBING & HEATING	SWAIN CLINTON	TITANIUM MECHANICAL

TKACH JASON	VANDALE LTD	WEGIER THOMAS
TNT PLUMBING & HEATING	VANDALE MECHANICAL	WEISE MATTHEW
TODD RANDALL	VAULT MECHANICAL	WELDEN TERRY
TODD SARGENT	VDL MECHANICAL	WERESCHUK PAUL
TOEWS ERIC	VENN ROGER	WERHUN JEFF
TOHMS GARTH	VENN RYAN	WERTEPNY DARIUSZ(DEREK)
TOKARZ BRIAN	VENTRIX HEATING & VENTILATION	WESCAN ELECTRICAL MECHANICAL SERVICES
TOMLIN ROBERT	VERNER PLUMBING & PIPE FITTING LTD	WES-MAN MECHANICAL
TOMMY'S WELDING LTD	VEROBA GARRY	WESTBEND MECHANICAL LTD
TORFASON ERIC	VEROBA MICHAEL	WESTERN HEATING SERVICES
TOTAL BUILDING SERVICES LTD.	VERTEX HEATING SERVICE	WESTMAN COMM GRP
TOTAL HEATING & A/C SERVICES	VIALLET ADRIAN	WESTMAN MECHANICAL
TOTIN BRIAN	VICTORY MECHANICAL LTD	WESTRA ANTHONY
TOUCHETTE ROBERT	VICTORY PLUMBING & HEATING	WESTSIDE PLUMBING & HEATING
TOUPIN PLUMBING & HEATING INC	VIEIRA DINIZ	WESTWOOD MECHANICAL INC
TOWNSEND BURLEY	VILLAGE PLUMBING	WHAP HVAC
TRADE SERVICES INC	VINCE KYLE	WHEAT CITY WATER HEATERS
TRADESMAN MECHANICAL SERVICES LTD	VIRDEN METER SERVICES	WHITE DANIEL
TRAILS EAST MECHANICAL	VOLK DOUG	WHITEFORD SCOTT
TRAVER KLASSEN	VOS MICHAEL	WHITEHEAD KYLE
TREVOR TEALL	VOYAGEUR PLUMBING & HEATING	WHITNEY DARRYLL
TREVOR'S PLUMBING & HEATING	W JAY'S PLUMBING & HEATING SERVICE	WIEBE RANDY D
TRIPP-LE "T" PLUMBING & HEATING	W S INDUSTRIAL CONSTRUCTION	WIENS ROLLY
TRI-SON ELECTRICAL REPAIR	WACZKO	WILDE JEFF
TROPIC MECHANICAL	WAHOSKI MECHANICAL LTD	WILDMAN PLUMBING & HEATING
TUGADE MELVIN	WALDON	WILGOSH KEVIN
TURNER WES	WALKER JOSHUA	WILLEMS PAUL
TWERDUN DARRYL	WALKER'S PLUMBING & HEATING	WILLIAMS R SCOTT
TWIN INDUSTRIES SALES & SERVICE LTD	WALL GRAIN HANDLING SYSTEMS	WILLIMENT JEFF
TWO O' FOUR HVAC/R	WALLD JAMES	WILSON ALISTAIR
TYLER MCTAVISH	WALSH J P	WILSON PAUL
TYLER PEARSON PLUMBING	WARBURTON	WILSON TODD
TYNDALL PLUMBING & HEATING LTD	WARD JON	WILZER JEFF
TY'S HEATING & COOLING	WARD PERRY	WILZER SHEET METAL & HEATING (1985) LTD
UEBEL ANDREW	WARD TRAVIS	WINDSOR PLUMBING AND HEATING
UNCLE PHIL'S HEATING AND COOLING	WARKENTIN GLENN	WINDSOR-BROWN LANCE
UNGER DON	WATCHDOG MECHANICAL SERVICES LTD	WINKLER PLUMBING & HEATING (2008) LTD
UNIT MECHANICAL SERVICES LTD	WATER FELLOW COMPANY	WINNIPEG HEARTH AND HOME
UNIVERSITY OF MANITOBA	WATERFELLOW ENTERPRISES LTD	WINNIPEG HOME SERVICES
VALLEY PLUMBING & HEATING	WATTERS CLINT	WINNIPEG SCHOOL DIVISION
VAN BUSKIRK	WAYNE'S PLUMBING & HEATING	WINNIPEG SUPPLY & SERVICES
VAN DEN BOSSCHE TYLER	WAYTIUK BRIAN	WINNIPEG WATER HEATERS
VAN DEN BROCK HARRY	WB MECHANICAL	WINTERPEG HEATING
VAN ROOYEN SCOTT	WEATHER TECH HEATING & COOLING	WINTER'S PLUMBING & HEATING

WJTE ENTERPRISES INC	YE OLDE HEARTH SHOPPE INC.	ZAYAC PLUMBING & HEATING LTD
WM DYCK & SONS (1993)	YORKTON PLUMBING & HEATING	ZAZULA MIKE
WOOD	YOUMANS RICK	ZERR
WORTHINGTON RYAN	YOUNG KEITH	ZEST JORDAN
WPG SUPPLY & SERVICES	YOUNG KEN	ZETTERSTROM ROBERT
WRIGHT KRIS	YOUNGER TYLER	ZIMOLAG FILIP
WS INDUSTRIAL Construction SERVICES LTD	YULE PLUMBING & HEATING	ZINYK DAVID
WUTSCHKE GERRY	ZACHARIAS DESMOND	ZIPRICK PLUMBING & HEATING
WYCHENKO TREVOR	ZAHAYKO GRAHAM	ZULYNIAK JASON
XTREME TEMP HEATING & Cooling LTD	ZALUSKI MATTHEW	
YACIUK	ZASTRE KRISTOPHER	