

**CENTRA GAS MANITOBA INC.  
2013/14 GENERAL RATE APPLICATION**

**VOLUME II**

**RATE BASE & RATE OF RETURN**

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21		<b>Note: All numbers are in thousands unless otherwise stated.</b>	

**CENTRA GAS MANITOBA INC.  
2013/14 GENERAL RATE APPLICATION**

**VOLUME II**

**RATE BASE & RATE OF RETURN**

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1 **9.0 Overview of Tab 9**

2 This Tab describes each of the components of revenue requirement using the rate  
3 base/rate of return methodology for the 2013/14 Test Year.

4

5 Under the rate base/rate of return methodology, total revenue requirement is comprised  
6 of the sum of cost of gas, operating & administrative expense, depreciation &  
7 amortization expense, capital & other taxes, return on rate base, and corporate  
8 allocation, minus other income.

9

10 To calculate return on rate base, it is necessary to first calculate rate base. Rate base is  
11 the total amount that Centra has invested in assets, net of accumulated depreciation,  
12 plus an allowance for working capital that is necessary to operate the business, less  
13 contributions in aid of construction. The overall rate of return is the cost of capital (debt  
14 and equity) expressed as a percentage. Return on rate base is calculated as rate base  
15 multiplied by the overall rate of return.

16

17 Total revenue requirement using the rate base/rate of return methodology is \$326,983  
18 for the 2013/14 Test Year as outlined on Schedule 9.0.0.

19

20 The following sections provide the calculations of rate base and the overall rate of return

1 for the 2013/14 Test Year. The details of the other revenue requirement line items are  
2 provided in Tab 5 of the Application.

3

#### 4 **9.1 Rate Base**

5 Schedule 9.0.0 shows the calculation of rate base for 2008/09, 2009/10, 2010/11 and  
6 2011/12 Actuals, the 2012/13 Forecast and the 2013/14 Test Year. The 2013/14 Test  
7 Year rate base has been calculated as \$489,535.

8

9 The components of rate base as detailed on Schedule 9.0.0 are:

- 10 • Gas plant in service, which is the 13-month average of fixed asset balances at  
11 cost;
- 12 • Accumulated depreciation, based on a 13-month average of accumulated  
13 depreciation balances;
- 14 • Contributions in aid of construction, based on a 13-month average; and
- 15 • Working capital allowance, which consists of a cash working capital requirement,  
16 plus the gas storage inventory and investment in DSM, less customer security  
17 deposits.

18

#### 19 **9.2 Gas Plant in Service**

20 Section 9.2 includes a discussion of the capital budgeting process at Centra, as well as  
21 the plant continuity schedules that are presented in this Tab. This section also includes  
22 the details with respect to plant additions and retirements for the 2008/09 to 2013/14  
23 fiscal years.

24

1 **9.2.1 Capital Budgeting**

2 Centra's Capital Expenditure Forecast ("CEF") reflects the capital expenditure required  
3 to provide a safe, reliable, environmentally sensitive, and efficient supply of natural gas  
4 to meet the needs of Manitoba consumers. The CEF is comprised of major and domestic  
5 items. Major items represent significant initiatives or franchise expansion projects that  
6 are specifically approved for inclusion in the CEF through the Capital Project Justification  
7 ("CPJ") process. Major items normally exceed \$1 million in individual projects costs.

8  
9 Domestic items are defined as relatively routine and recurring capital requirements. The  
10 appropriate level of domestic item funding is established based on capital program  
11 reviews conducted by business unit planning, in consultation with design and  
12 construction management. Past yearly trends are established for routine replacements  
13 and upgrades to existing facilities, as well as projected requirements related to system  
14 load growth.

15  
16 Due to the routine or non-scheduled nature of many of the domestic items, they are  
17 budgeted on a non-specific or blanket basis whereby an annual sum is provided. As  
18 projects become better-defined, specific work packages are authorized by management  
19 and charged against the blankets. Examples of domestic item blanket programs include  
20 distribution mains, residential services, and regulators. Additionally, the domestic item  
21 forecast contains a budgeted amount for non-blanket items that would be utilized for  
22 routine and non-recurring projects. These projects generally range from \$0.1 to \$1.0  
23 million in total cost and may span more than one fiscal year. Please see Tab 3 for a  
24 description of CEF and CPJ processes.

1 **9.2.2 Plant Continuity**

2 Gas plant in service is based on the fixed assets (at cost) calculated on a 13-month  
3 average of plant balances. Completed capital expenditure projects are added each year  
4 and retirements of fixed assets acquired in previous years are deducted. Gas plant in  
5 service is the largest element of rate base and consists primarily of Centra's natural gas  
6 transmission and distribution system.

7

8 General plant assets, such as computer hardware and software, and tools required to  
9 operate the utility are also included in gas plant in service. However these types of  
10 assets are now being acquired by Manitoba Hydro and the associated finance and  
11 depreciation expense is allocated to Centra through the integrated cost allocation  
12 methodology.

13

14 Schedules 9.1.0 through 9.1.5 show the utility plant continuity schedules by plant  
15 account for 2008/09 to 2013/14. Sections 9.2.3 through 9.2.7 include a discussion of the  
16 capital projects greater than \$100 thousand completed or planned by Centra for 2008/09  
17 to 2013/14, consistent with past filings.

1 **9.2.3 Plant Additions – 2008/09**

2 Schedule 9.2.0 summarizes the capital additions totalling \$27,060 for 2008/09. A  
 3 description of the capital projects greater than \$100 thousand is provided in this section.

4  
 5 **System Load Growth**

6 System load growth expenditures include the costs of installing new services and  
 7 distribution mains. As this program is ongoing, the following table provides particulars of  
 8 the plant additions for each of the years:

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
	Actual	Actual	Actual	Actual	Forecast	Test Year
Services	\$ 4,568	\$ 4,873	\$ 4,851	\$ 5,148	\$ 4,118	\$ 4,803
Regulators	1,621	1,575	1,768	1,870	1,492	1,742
Distribution Mains	4,216	3,702	2,790	3,669	4,021	3,713
Measuring & Regulating Equipment	122	14	28	5	-	-
Meters	1,263	1,416	1,478	1,153	1,055	1,232
Total	<u>\$ 11,790</u>	<u>\$ 11,580</u>	<u>\$ 10,915</u>	<u>\$ 11,845</u>	<u>\$ 10,686</u>	<u>\$ 11,490</u>

9  
 10 **Meters**

11 This program captures all capital costs related to the replacement of natural gas meters.  
 12 This program supports Centra’s accuracy in metering natural gas volumes and is in  
 13 compliance with the Electricity and Gas Inspection Act and federal regulations. Increase  
 14 in forecast Meter replacements starting in 2012 is due to changes in Measurement  
 15 Canada regulations (S-S-06 Sampling Plans for the Inspection of Isolated Lots of Meters  
 16 in Service) regarding replacement of Gas meters. The changes create tighter tolerances  
 17 on the meters which result in a shorter meter life. Prior to 2011/12 meters were split  
 18 50/50 between new installs and replacements but as a result of the change in  
 19 regulations there will be a significant increase in replacements, estimated at 75% of  
 20 Centra’s annual meter installations. As this program is ongoing, the following table

1 provides particulars of the plant additions for each of the years:

	2008/09 Actual	2009/10 Actual	2010/11 Actual	2011/12 Actual	2012/13 Forecast	2013/14 Test Year
2 Meters	\$ 1,263	\$ 1,416	\$ 1,478	\$ 3,460	\$ 3,164	\$ 3,695

3  
 4 **System Capacity Upgrades**

5 System capacity upgrades include the costs to add mains, stations, and related facilities  
 6 for the purpose of increasing the capacity of Centra's system. System capacity upgrades  
 7 are performed each year in areas as needed for the purpose of increasing the capacity  
 8 of Centra's system. As this program is ongoing, the following table provides particulars  
 9 of the plant additions for each of the years:

	2008/09 Actual	2009/10 Actual	2010/11 Actual	2011/12 Actual	2012/13 Forecast	2013/14 Test Year
Distribution Mains	\$ 160	\$ 99	\$ 14	\$ 88	\$ 350	\$ 400

10  
 11

12 **Pipeline Relocations**

13 This program involves lowering, relocating, or abandoning pipeline facilities as a result of  
 14 proposed third party projects or where a pipeline does not conform to current code  
 15 requirements. As this program is ongoing, the following table provides particulars of the  
 16 plant additions for each of the years:

	2008/09 Actual	2009/10 Actual	2010/11 Actual	2011/12 Actual	2012/13 Forecast	2013/14 Test Year
Transmission Mains	\$ 3	\$ 2	\$ 33	\$ -	\$ 150	\$ 150
Services	-	59	8	14	-	-
Distribution Mains	149	314	263	480	250	300
Total	<u>\$ 152</u>	<u>\$ 375</u>	<u>\$ 304</u>	<u>\$ 494</u>	<u>\$ 400</u>	<u>\$ 450</u>

1  
2

### 3 **System Integrity Upgrades**

4 This program involves lowering, relocating, or abandoning pipelines as a result of  
 5 integrity related pipeline surveys or programs. As this program is ongoing, the following  
 6 table provides particulars of the plant additions for each of the years:

7

	2008/09 Actual	2009/10 Actual	2010/11 Actual	2011/12 Actual	2012/13 Forecast	2013/14 Test Year
Transmission Mains	\$ 63	\$ 9	\$ 71	\$ 161	\$ 250	\$ 250
Services	-	-	-	5	-	-
Distribution Mains	14	87	12	198	100	150
Total	<u>\$ 77</u>	<u>\$ 96</u>	<u>\$ 83</u>	<u>\$ 364</u>	<u>\$ 350</u>	<u>\$ 400</u>

8  
9

### 10 **Regulator Station Upgrades**

11 The following upgrades were completed in 2008/09:

- 12 • Natural gas odourization facilities were upgraded to meet Centra's natural gas  
 13 standards to provide for required odourant levels for natural gas detection at  
 14 Miniota, Brandon, and Niverville primary gate stations.
- 15 • Pressure regulating stations at LaSalle, Moore Park, Iles des Chenes, and  
 16 Landmark primary gate stations were upgraded to provide reliable and  
 17 uninterrupted natural gas service.



- 1 • A natural gas capacity tap from TCPL that supplies the Ste. Anne primary gate
- 2 station was upgraded, and a Centra station attachment was modified.
- 3 • A new pressure regulating station was installed for the town of Elie to replace the
- 4 existing facility, as the station sustained tornado damage.
- 5 • Programmable Logic Controller (PLC) upgrades were completed at Brandon,
- 6 Miniota, Deloraine and Park Street Station (Brandon).
- 7 • Station equipment upgrades and replacements due to obsolete equipment.
- 8 • Station structures and improvements; replaced buildings and fences as needed.

9 As this program is ongoing, the following table provides particulars of the plant additions  
 10 for each of the years:

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
	Actual	Actual	Actual	Actual	Forecast	Test Year
Land	\$ 55	\$ 1	\$ 12	\$ 3	\$ 50	\$ 50
Structures & Improvements	178	189	326	26	258	258
Measuring & Regulating Equipment	921	1,431	563	495	1,282	1,251
Telemetry Equipment	89	94	51	-	50	54
Meters	-	-	80	-	-	-
Total	<u>\$ 1,243</u>	<u>\$ 1,715</u>	<u>\$ 1,032</u>	<u>\$ 524</u>	<u>\$ 1,640</u>	<u>\$ 1,613</u>

11

12 ***Integrity Management Projects***

13 Centra undertook the following activities to assess and maintain the integrity of the  
 14 pipeline system in various locations:

- 15 • **Polyethylene Butt Fusion Remediation:** This project was initiated in 1999 with
- 16 the replacement of three distribution mains subsequent to several polyethylene
- 17 butt fusion joint failures attributed to a single fuser. The project continued with
- 18 work performed to identify all projects installed by the specific fuser. In 2008/09,
- 19 an inline gas camera purchased by Centra was used to assist in locating butt

1 fusion joints. Through the course of the project, investigation into the integrity of  
2 all the remaining mains installed by the fuser continued through random butt  
3 fusion joint testing. When an in-service or testing failure was experienced, all the  
4 butt fusions on the specific project were replaced or reinforced with an external  
5 fitting. Butt fusions identified in mains adjacent to public buildings were replaced  
6 or reinforced. The project was completed in 2008/09 and no further removal or  
7 testing is proposed.

8 • **Below Grade Entry Rehabilitation Project:** Below grade service entries are  
9 services where the wall entry pipe is below grade. If the pipe is not properly  
10 cathodically protected, the below grade entry piping can be susceptible to  
11 corrosion and reduced service life. To address this problem, Centra surveyed  
12 approximately 3,400 below grade entries from 2003/04 to 2007/08 to gain  
13 information on the cathodic protection levels. Approximately 200 sites remain  
14 unsurveyed and will be surveyed in 2012/13. Phase II of the rehabilitation  
15 program commenced in 2006/07 with 78 service entries having been  
16 rehabilitated between 2006/07 and 2008/09. The rehabilitation phase of this  
17 program is forecasted to continue to 2013/14 with plans to rehabilitate  
18 approximately 2,000 metersets.

19 • **Outside Meterset Rehabilitation Project:** Soil settlements around residential  
20 foundations caused a number of service riser assembly failures on outside meter  
21 sets. Centra analyzed the circumstances of piping failures and determined that  
22 most failures were associated with older service riser assemblies where the  
23 piping downstream of the meter had limited movement capability due to auxiliary  
24 piping. The identification phase of this program commenced in 2004/05 and

1 approximately 12,700 meter sets were inspected between 2004/05 and 2009/10.  
2 The information gained from the identification phase of this project is used to  
3 determine the magnitude of the second phase of the project, define the scope of  
4 the rehabilitation program, and develop criteria for prioritization of sites for  
5 rehabilitation. The rehabilitation phase of this program commenced in 2006/07  
6 with approximately 490 metersets having been addressed between 2006/07 and  
7 2007/08 and approximately 4,586 sites addressed between 2008/09 and 2011/12  
8 This program was completed 2011/12.

- 9 • **Mitigation of Ground Movement and Erosion on Transmission Pipelines:** In  
10 2004/05 a geotechnical and hydro-technical study of all the transmission pipeline  
11 rights-of-way was conducted to assess the potential for slope movements,  
12 erosion, or a combination of these factors which could adversely impact the  
13 integrity of the existing pipelines. The study identified the mitigation  
14 recommendations and options for eight locations, seven to be remediated and  
15 one to have monitoring performed. The mitigation options included the  
16 installation of slope monitoring equipment to monitor ground movements, slope  
17 grading, installation of erosion control measures at several locations, and  
18 pipeline depth of cover and topographic surveys to allow remedial measures to  
19 be designed. In 2005/06 and 2006/07 Centra initiated topographic surveys for the  
20 sites requiring mitigation work. The seven sites were remediated as follows, three  
21 in 2009/10, three in 2011/12 and one in 2012/13.

- 22 • **Fabricated Riser Remedial Repair Project:** The project was initiated in 2007/08  
23 to investigate the condition of fabricated steel risers installed on polyethylene  
24 service lines which was the practice before the use of anodeless risers became

1 standard. A field survey of the approximately 3,600 potential fabricated risers  
 2 identified through a records review and pre-screening by meter readers started  
 3 in 2007/08. Fourteen samples were removed from service for evaluation and to  
 4 establish the recommended method of remediation. In 2008/09 work continued  
 5 with the survey of the potential fabricated risers.

6 As this program is ongoing, the following table provides particulars of the plant additions  
 7 for each of the years as follows:

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
	Actual	Actual	Actual	Actual	Forecast	Test Year
Land Rights	\$ -	\$ 1	-	\$ 4	\$ -	\$ -
Transmission Mains	2	214	-	966	-	-
Services	153	1,118	761	500	481	500
Distribution Mains	679	1	2	-	200	179
Measuring & Regulating Equipment	19	16	66	156	-	-
<b>Total</b>	<b>\$ 853</b>	<b>\$ 1,350</b>	<b>\$ 829</b>	<b>\$ 1,626</b>	<b>\$ 681</b>	<b>\$ 679</b>

8  
 9

10 ***Cathodic Protection Upgrades***

11 The maintenance of the cathodic protection systems requires a continuous effort as  
 12 anodes and the performance of impressed current ground beds deteriorate over time.  
 13 Through monitoring and data analysis, it is determined which cathodic protection  
 14 systems are getting close to the end of their useful life and these are scheduled for  
 15 reinforcement by replacing or installing more sacrificial anodes, impressed current  
 16 ground beds or rectifiers. As this program is ongoing, the following table provides  
 17 particulars of the plant additions for each of the years:

	2008/09 Actual	2009/10 Actual	2010/11 Actual	2011/12 Actual	2012/13 Forecast	2013/14 Test Year
Transmission Mains	\$ 1	\$ 1	\$ -	\$ -	\$ 126	\$ 126
Distribution Mains	129	117	343	520	193	199
Total	<u>\$ 130</u>	<u>\$ 118</u>	<u>\$ 343</u>	<u>\$ 520</u>	<u>\$ 319</u>	<u>\$ 325</u>

1  
2

3 **LGS Regulator & Relief Vent Piping Upgrades**

4 Centra has initiated the following activities to address specific issues with Large General  
5 Services (LGS):

6 • **LGS Relief Vent Termination Upgrades:** This is a multi-year project that  
7 commenced in 2000/01 and involves the upgrade of existing vent piping on LGS  
8 services to current company standards. The goal of this project is to minimize  
9 accumulation of rain or snow in the vent stacks which may cause regulator/relief  
10 malfunction. Between 2000/01 and 2008/09 the vent piping on approximately  
11 2,960 services have been upgraded. This project will rehabilitate the  
12 approximately 2,240 remaining services.

13 • **Regulator and Relief Valve Replacement and Testing Project:** This project  
14 involves the removal and replacement of older LGS regulation and relief  
15 equipment. It is planned to test the removed pressure regulation and relief valve  
16 equipment to identify equipment performance trends. This project commenced in  
17 2001/02 and between 2001/02 and 2007/08 the pressure regulation and relief  
18 valve equipment on approximately 150 services have been upgraded. The  
19 removed equipment has been tested and recommendations were provided based  
20 on the analysis of the results.

21

1 This project will be completed in 2012/13. As this project is ongoing the following table  
 2 provides particulars of the plant additions for each of the years as follows:

	2008/09	2009/10	2010/11	2011/12	2012/13
	Actual	Actual	Actual	Actual	Forecast
Regulators	\$ 177	\$ 204	\$ 20	\$ 4	\$ 40

3  
 4

5 **System Upgrades – Services**

6 System upgrades include installation of new service guards, customer load changes,  
 7 leak repairs and upgrades due to code or standard violations. As this program is  
 8 ongoing, the following table provides particulars of the plant additions for each of the  
 9 years:

	2008/09	2009/10	2010/11	2011/12	2012/13	2013/14
	Actual	Actual	Actual	Actual	Forecast	Test Year
Services	\$ 2,397	\$ 1,855	\$ 1,481	\$ 1,197	\$ 1,406	\$ 1,639
Distribution Mains	24	23	13	50	-	-
Total	\$ 2,421	\$ 1,878	\$ 1,494	\$ 1,247	\$ 1,406	\$ 1,639

10  
 11

12 **Riser Rehabilitation Program**

13 Soil settlements around residential foundations have caused an increased number of  
 14 service riser assemblies to fail. Services that were most problematic were approximately  
 15 66,000 residential services with an inside meter. To correct the problem, Centra initiated  
 16 a program to inspect and assess the condition of these services and prioritized those  
 17 requiring rehabilitation to current standards with relocation of the meter from inside to  
 18 outside where possible. This program commenced in 2000/01 and approximately 18,500  
 19 service riser assemblies have been rehabilitated between 2000/01 and 2007/08. The  
 20 project was completed in 2008/09 with the rehabilitation of approximately 2,500

1 additional service risers. Services plant additions for the Riser Rehabilitation Program  
2 totalled \$1,960 in 2008/09.

3

4 ***Red River Floodway Expansion***

5 Construction work associated with the expansion of the Floodway began in 2005. Due to  
6 the significant nature of the expansion, Centra was required to relocate several  
7 distribution and transmission rated pipelines. Centra completed the required relocations  
8 during 2005/06, 2006/07, 2007/08, and 2008/09. As this work was fully contributed by  
9 the Manitoba Floodway Authority there was no net impact on rate base. Transmission  
10 mains plant additions for the Red River Floodway Expansion totalled \$614 in 2008/09.

11

12 ***Southloop Capacity Upgrade - Phase IV***

13 This is the fourth phase of the looping project required due to continued load growth in  
14 the Winkler district. The project required the installation of 26,500 metres of NPS 6  
15 transmission main looping from the location where Phase III ended to the City of Winkler  
16 to tie-in to the Winkler town border station. A portion of the NPS 4 transmission main  
17 connecting Winkler to Morden was converted to medium pressure to add capacity to the  
18 Winkler medium pressure network. The project was completed in 2009/10. The following  
19 table provides particulars of the plant additions for each of the years:

	2008/09	2009/10
	Actual	Actual
Transmission Land	\$ 22	\$ 3
Transmission Land Rights	647	208
Transmission Mains	2,854	244
Total	<u>\$ 3,523</u>	<u>\$ 455</u>

20  
21

22

1 **McPhillips & Emes Road Distribution Main Upgrade**

2 Due to load growth in the RM of West St. Paul, capacity upgrades were required in order  
3 to maintain reliable supply of natural gas to the customers in the area. The project  
4 required the installation of approximately 1,000 metres of NPS 6 distribution main, and  
5 NPS 2 distribution main. The project was completed in 2008/09. Distribution mains plant  
6 additions for the McPhillips & Emes Road Distribution Main Upgrade totalled \$136 in  
7 2008/09.

8

9 ***Carman Distribution System Upgrade***

10 Due to load growth in the town of Carman and surrounding areas, the Carman  
11 distribution system was at capacity and required an upgrade. In 2003, a NPS 8 steel  
12 transmission pipeline was looped around Carman. This allowed the existing NPS 4  
13 transmission pipeline running through the town to be converted to medium pressure and  
14 six farm taps to be abandoned. Additional NPS 4 distribution main was also required to  
15 reinforce the medium pressure distribution network. This project was completed in  
16 2008/09. Particulars of the plant additions for 2008/09 are as follows:

Transmission Mains	\$	84
Distribution Mains		211
Measuring & Regulating Equipment		59
Total	\$	<u>354</u>

17

18

19 ***St Pierre Jolys 2" Steel Upgrade***

20 The relocation of NPS 2 steel pipe in the Town of St Pierre Jolys was required due to  
21 soil contamination. The hydrocarbon contamination around the steel pipeline caused  
22 disbonding to the coating as well as numerous locations where the protective coating



1 was no longer continuous. The affected steel pipe was abandoned and new NPS 2  
2 fusion bonded epoxy coated steel pipe was installed. This project was completed in  
3 2008/09. Distribution mains plant additions for the St. Pierre Jolys 2" Steel Upgrade  
4 totalled \$108 in 2008/09.

5

6 ***Saskatchewan & Buchanan High Pressure System Tie-In***

7 The overall reliability and capacity of west Winnipeg high pressure system was  
8 increased through the installation of a transmission pressure regulation station and high  
9 pressure main to connect the transmission network at Saskatchewan Avenue and the  
10 Perimeter Highway to the high pressure network at Saskatchewan Avenue and  
11 Buchanan Boulevard. This project required the installation of both NPS 16 steel high  
12 pressure gas main and NPS 8 steel transmission pressure gas main. The risk  
13 associated with any potential damage to or shutdown of the single feed high pressure  
14 system supplying the west portion of Winnipeg has been reduced. This project was  
15 completed in 2009/10. Particulars of the plant additions for 2008/09 and 2009/10 are as  
16 follows:

	2008/09	2009/10
	<u>Actual</u>	<u>Actual</u>
Transmission Land	\$ 73	\$ -
Transmission Mains	944	1
Distribution Mains	-	16
Measuring & Regulating Equipment	-	572
Total	<u>\$ 1,017</u>	<u>\$ 589</u>

17

18

19 ***North Perimeter Red River Crossing***

20 The NPS 8 high pressure steel main crossing the Red River south of the North  
21 Perimeter Bridge (PTH 101) was found to be exposed in the riverbed during a river

1 crossing inspection conducted in 2005. The existing crossing of 380 metres in length  
2 was abandoned and replaced with a new NPS 8 steel crossing. This project was  
3 completed in 2008/09. Transmission mains plant additions for the North Perimeter Red  
4 River Crossing totalled \$757 in 2008/09.

5

6 **Advanced Metering Infrastructure (“AMI”)**

7 The AMI pilot project commenced in 2006/07 and concluded in 2008/09. The AMI pilot  
8 involved the installation of almost 1,000 natural gas meters in Winnipeg and the  
9 development of a business case for conversion to automated from manual meter  
10 reading. The pilot provided operational information as well as a number of key cost  
11 assumptions for the business case. The natural gas AMI business case continues to be  
12 updated. Centra will seek the necessary approvals to implement AMI if it determines it  
13 intends to pursue this alternative. Centra is not seeking any approval to implement AMI  
14 in this Application.

	2008/09	2009/10
	<u>Actual</u>	<u>Actual</u>
Meters	\$ 279	\$ (78)

15

16 **Other Distribution System Upgrades**

17 These capital expenditures consist primarily of a number of small projects that were  
18 constructed during 2008/09 and totalled \$46 for 2008/09.

19

1 **9.2.4 Plant Additions – 2009/10**

2 Schedule 9.2.1 summarizes the capital additions totalling \$24,332 for 2009/10. A  
3 description of the capital projects greater than \$100 thousand is provided in this section.

4  
5 **System Load Growth**

6 System load growth expenditures include the costs of installing new services and  
7 distribution mains. Particulars of the plant additions for 2009/10 are as follows:

Services	\$ 4,873
Regulators	1,575
Distribution Mains	3,702
Measuring & Regulating Equipment	14
Meters	1,416
Total	<u>\$ 11,580</u>

8  
9

10 **Meters**

11 This is a continuation of the program discussed in Section 9.2.3. Meters plant additions  
12 totalled \$1,416 for 2009/10.

13

14 **System Capacity Upgrades**

15 System capacity upgrades are performed each year in areas as needed for the purpose  
16 of increasing the capacity of Centra's system as discussed in Section 9.2.3. Distribution  
17 mains plant additions for System Capacity Upgrades totalled \$99 in 2009/10.

18

19 **Pipeline Relocations**

20 This is a continuation of the program discussed in Section 9.2.3. Particulars of the plant  
21 additions for 2009/10 are as follows:

Transmission Mains	\$	2
Services		59
Distribution Mains		314
Total	\$	<u>375</u>

1  
2  
3

**System Integrity Upgrades**

4 This program involves lowering, relocating, or abandoning pipelines as a result of  
5 integrity related pipeline surveys or programs as discussed in Section 9.2.3. Particulars  
6 of the plant additions for 2009/10 are as follows:

Transmission Mains	\$	9
Distribution Mains		87
Total	\$	<u>96</u>

7  
8  
9

**Regulator Station Upgrades**

10 The following upgrades were completed in 2009/10:

- 11 • Natural gas odourization facilities were upgraded to meet Centra's natural gas  
12 standards to provide for required odourant levels for natural gas detection at  
13 Carberry, Neepawa, and St. Norbert primary gate stations.
- 14 • Selkirk, Portage la Prairie Gate Stations and a high pressure regulating station  
15 located at Madison Street and St. Matthews Avenue were upgraded to provide  
16 reliable and uninterrupted natural gas service.
- 17 • PLC upgrades were completed at Virden, Brandon #2, Carberry, Russell, Cromer  
18 and Shoal Lake.
- 19 • Station equipment upgrades and replacements due to obsolete equipment.
- 20 • Station structures and improvements; replaced buildings and fences as needed.

21

1 Particulars of the plant additions for 2009/10 are as follows:

Land	\$ 1
Structures & Improvements - Measuring & Regulating	189
Measuring & Regulating Equipment	1,431
Telemetry Equipment	94
Total	<u>\$ 1,715</u>

2  
3

4 ***Integrity Management Projects***

5 Centra undertook the following activities to assess and maintain the integrity of the  
6 pipeline system in various locations. Please refer to Section 9.2.3 for a discussion of the  
7 projects.

- 8 • **Below Grade Entry Rehabilitation Project:** This is a continuation of the project  
9 that commenced in 2003/04. During 2009/10, Centra rehabilitated 27 locations.
- 10 • **Outside Meterset Rehabilitation Project:** This is a continuation of the project  
11 that commenced in 2004/05. The rehabilitation of approximately 1820 locations  
12 was completed in 2009/10.
- 13 • **Mitigation of Ground Movement and Erosion on Transmission Pipelines:**  
14 This is a continuation of the project that commenced in 2005/06. In 2009/10  
15 Centra remediated three sites.
- 16 • **Fabricated Riser Remedial Repair Project:** This is a continuation of the project  
17 that commenced in 2007/08. Centra performed an analysis of the previously  
18 removed samples of fabricated risers to determine the recommended method of  
19 providing cathodic protection to the service risers where cathodic protection does  
20 not meet Centra's standards. The installation of a two pound anode for cathodic  
21 protection at each cathodically isolated fabricated service riser was identified as  
22 the solution.

1 Particulars of the plant additions for 2009/10 are as follows:

Land Rights	\$ 1
Transmission Mains	214
Services	1,118
Distribution Mains	1
Measuring & Regulating Equipment	16
Total	<u>\$ 1,350</u>

2  
3

4 ***Cathodic Protection Upgrades***

5 This is a continuation of the program to upgrade cathodic protection. Please refer to  
6 Section 9.2.3 for a discussion of the program. Particulars of the plant additions for  
7 2009/10 are as follows:

Transmission Mains	\$ 1
Distribution Mains	117
Total	<u>\$ 118</u>

8  
9

10 ***LGS Regulator & Relief Vent Piping Upgrades***

11 This is a continuation of the program to upgrade LGS service vent piping. During  
12 2009/10, 2,180 services were upgraded and approximately 60 services remain to be  
13 upgraded at the end of 2009/10. The remaining 60 services are more complex and  
14 require interruption of customer supply, so the upgrades need to be scheduled with  
15 customers and will be completed as time and resources permit. Please refer to Section  
16 9.2.3 for a discussion of the program. Regulator plant additions for the LGS Regulator &  
17 Relief Vent Piping Upgrades totalled \$204 in 2009/10.

18

19 ***System Upgrades – Services***

20 System upgrades includes installation of new service guards, customer load changes,

1 leak repairs, and upgrades due to code or standards violations. Please refer to Section  
2 9.2.3 for a discussion of the program. Particulars of the plant additions for 2009/10 are  
3 as follows:

Services	\$ 1,855
Distribution Mains	23
Total	<u>\$ 1,878</u>

4  
5

6 **Brandon System Capacity Upgrade**

7 A reduction in the TransCanada Pipeline pressures historically available has reduced the  
8 available capacity of the unodourized natural gas network that supplies Koch Fertilizer,  
9 the Brandon Combustion Turbines and the Southwest natural gas network. The  
10 installation of approximately 11,500 metres of NPS 12 steel transmission pipeline and a  
11 control point valve assembly was necessary to accommodate the reduced pressures  
12 and provide the required natural gas supply. This project was completed in 2009/10. As  
13 this work was fully contributed by Manitoba Hydro there will be no net impact on rate  
14 base. Particulars of the plant additions for 2009/10 are as follows:

Land	\$ 2
Land Rights	134
Transmission Mains	3,523
Total	<u>\$ 3,659</u>

15  
16

17 **Southloop Capacity – Phase IV**

18 This is a continuation of the construction work associated with Phase IV of the Southloop  
19 Capacity upgrade as discussed in section 9.2.3. The project was completed in 2009/10.  
20 Particulars of the plant additions for 2009/10 are as follows:

Land	\$	3
Land Rights		208
Transmission Mains		244
Total	\$	<u>455</u>

1

2

3

**Saskatchewan & Buchanan High Pressure System Tie-In**

4 This is a continuation of the project which began in 2008/09. Please refer to section  
5 9.2.3 for a discussion of the project. Particulars of the plant additions for 2009/10 are as  
6 follows:

Transmission Mains	\$	1
Distribution Mains		16
Measuring & Regulating Equipment		572
Total	\$	<u>589</u>

7

8

9

**Shell River Crossing**

10 The NPS 3 transmission pressure steel main crossing the Shell River south of Roblin  
11 was found to be exposed in the riverbed during a river crossing inspection conducted in  
12 2004. The existing crossing was abandoned and approximately 100 metres of NPS 3  
13 steel was installed in 2009/10 for the new river crossing. Particulars of the plant  
14 additions for 2009/10 are as follows:

Land Rights	\$	27
Transmission Mains		288
Total	\$	<u>315</u>

15

16

17 **PTH 9 Parks Creek**

18 Due to road widening by Manitoba Infrastructure and Transportation (MIT) the existing  
19 NPS 4 steel distribution main had to be relocated to a new alignment. As this work was



1 required due to construction by MIT, it was a cost shared project. This project was  
2 completed in 2009/10 with the installation of approximately 900 metres of NPS 4 main.  
3 The cost sharing was received in 2010/11. Particulars of the plant additions for 2009/10  
4 are as follows:

	2009/10	2010/11
	Actual	Actual
Distribution Mains	\$ 161	\$ (113)

5  
6 ***La Salle Valve Installation***

7 The overall reliability of the Winnipeg high pressure system was increased through the  
8 installation of a NPS 12 valve on the NPS 12 transmission pressure main from the La  
9 Salle Primary station. The risk associated with the inability to isolate the NPS 8 and NPS  
10 12 transmission mains supplying the Winnipeg high pressure system at Gate Station 1  
11 was reduced through this project. Measuring & regulating equipment plant additions for  
12 the La Salle Valve Installation totalled \$105 in 2009/10.

13  
14 ***Advanced Metering Infrastructure***

15 This is a continuation of the project which began in 2006/07. Please refer to section  
16 9.2.3 for a discussion of the project. An accrual booked for the planned purchase of AMI  
17 gas modules was reversed totalling \$(78) in 2009/10.

18  
19 ***Other Distribution System Upgrades***

20 These capital expenditures consist primarily of a number of small projects that were  
21 constructed during 2009/10 and totalled \$295.

22  
23

1 **9.2.5 Plant Additions – 2010/11**

2 Schedule 9.2.2 summarizes the capital additions totalling \$20,838 for 2010/11. A  
3 description of the capital projects greater than \$100 thousand is provided in this section.

4  
5 ***System Load Growth***

6 System load growth expenditures include the costs of installing new services and  
7 distribution mains. Particulars of the plant additions for 2010/11 are as follows:

Services	\$ 4,851
Regulators	1,768
Distribution Mains	2,790
Measuring & Regulating Equipment	28
Meters	1,478
Total	<u>\$ 10,915</u>

8  
9

10 ***Meters***

11 This is a continuation of the program discussed in Section 9.2.3. Meter plant additions  
12 totalled \$1,478 thousand in 2010/11.

13

14 ***System Capacity Upgrades***

15 System capacity upgrades are performed each year in areas as needed for the purpose  
16 of increasing the capacity of Centra's system as discussed in Section 9.2.3. Distribution  
17 main plant additions for System Capacity Upgrades totalled \$14 in 2010/11.

18

19 ***Pipeline Relocations***

20 Pipeline relocations are performed each year as a result of proposed third party projects  
21 or where a pipeline is not in conformance with current code requirements, as discussed

1 in Section 9.2.3. Particulars of the plant additions for 2010/11 are as follows:

Transmission Mains	\$ 33
Services	8
Distribution Mains	263
Total	<u>\$ 304</u>

2  
3

4 ***System Integrity Upgrades***

5 This program involves lowering, relocating or abandoning pipelines as a result of  
6 integrity related pipeline surveys or programs. Please refer to Section 9.2.3 for a  
7 discussion of the program. Particulars of the plant additions for 2010/11 are as follows:

Transmission Mains	\$ 71
Distribution Mains	12
Total	<u>\$ 83</u>

8  
9

10 ***Regulator Station Upgrades***

11 The following upgrades were completed in 2010/11:

- 12 • Pressure regulating station upgrades, which are required to provide reliable and  
13 uninterrupted natural gas service, were completed for Harrowby, Oakville,  
14 Emerson, Niverville and Ile des Chenes primary gate stations.
- 15 • Metering upgrades for Hamiota and MacGregor primary gate stations were  
16 installed to improve natural gas volume measurement during low flow periods to  
17 optimize the natural gas odourization.
- 18 • The natural gas odourization facility at the Oak Bluff primary gate station was  
19 upgraded to meet Manitoba Hydro natural gas standards to provide the required  
20 odourant levels for natural gas detection.
- 21 • Pipeline Valve Labelling which involved the installation of identification tags on all

1 transmission pipeline valves throughout the system.

2 • Station equipment upgrades and replacements due to obsolete equipment.

3 • Station structures and improvements; replaced buildings and fences as needed.

4 Please refer to Section 9.2.3 for a discussion of the project. Particulars of the plant

5 additions for 2010/11 are as follows:

Land	\$ 12
Structures & Improvements - Measuring & Regulating	326
Measuring & Regulating Equipment	563
Telemetry Equipment	51
Meters	80
Total	<u>\$ 1,032</u>

6

7

8 ***Integrity Management Projects***

9 Centra undertook the following activities to assess and maintain the integrity of the  
10 pipeline system in various locations. Please refer to Section 9.2.3 for a discussion of the  
11 projects.

12 • **Below Grade Entry Rehabilitation Project:** This is a continuation of the project  
13 that commenced in 2003/04. During 2010/11, Centra rehabilitated two locations.

14 • **Outside Meterset Rehabilitation Project:** This is a continuation of the project  
15 that commenced in 2004/05. The rehabilitation of approximately 1565 locations  
16 was completed in 2010/11.

17 • **Mitigation of Ground Movement and Erosion on Transmission Pipelines:**  
18 This is a continuation of the project that commenced in 2005/06. In 2010/11  
19 Centra installed slope monitoring equipment and pipeline strain gauges to permit  
20 gathering of data on actual site conditions. The monitoring program will be in  
21 place for a minimum of two years.

- 1       • **Fabricated Riser Remedial Repair Project:** This is a continuation of the project  
2           that commenced in 2007/08. Remediation of the sites where the fabricated risers  
3           do not have adequate protection was initiated in 2010/11. Remedial work  
4           involved the installation of an anode for each riser.

5   Particulars of the plant additions for 2010/11 are as follows:

Services	\$ 761
Distribution Mains	2
Measuring & Regulating Equipment	66
Total	<u>\$ 829</u>

6  
7

8   ***Cathodic Protection Upgrades***

9   This is a continuation of the program to upgrade cathodic protection. Please refer to  
10   Section 9.2.3 for a discussion of the program. Distribution main plant additions for  
11   Cathodic Protection Upgrades totalled \$343 in 2010/11.

12

13   ***LGS Regulator and Relief Vent Piping Upgrades***

14   This is a continuation of the program to upgrade LGS service vent piping. Please refer  
15   to Section 9.2.3 for a discussion of the program. Regulator plant additions for LGS  
16   Regulator and Relief Vent Piping Upgrades totalled \$20 in 2010/11.

17

18   ***System Upgrades - Services***

19   System upgrades include installation of new service guards, customer load changes,  
20   leak repairs, and upgrades due to code or standards violations. Please refer to Section  
21   9.2.3 for a discussion of the program.

22

23   Particulars of the plant additions for 2010/11 are as follows:

Services	\$ 1,481
Distribution Mains	13
Total	<u>\$ 1,494</u>

1  
 2  
 3

**CentrePort NPS 16 Transmission Main Relocation**

4 As part of the Province of Manitoba’s CentrePort project, MIT constructed a new above-  
 5 grade highway interchange at the intersection of PTH 101 and Saskatchewan Avenue.  
 6 To accommodate this construction, the installation of approximately 3,200 metres of  
 7 NPS 16 steel transmission main was required to permit the existing main in the area of  
 8 the new roadway construction to be abandoned. Work for this project was cost-shared  
 9 between MIT and Centra. Particulars of the plant additions for 2010/11 and 2011/12 are  
 10 as follows:

	<u>2010/11</u>	<u>2011/12</u>
	Actual	Actual
Transmission Mains	\$ 3,613	\$ 1,084

11  
 12

**Supervisory Control and Data Acquisition (SCADA)**

14 A project to replace the existing SCADA, has been undertaken. SCADA systems have  
 15 been used within gas operations since the 1970s. These systems communicate in real  
 16 time with various devices along the pipeline to monitor, control and alarm on pressures,  
 17 flow rates, odourant rates and metering data. SCADA systems are essential for the safe,  
 18 secure and reliable delivery of natural gas.

19

20 The current system was originally installed in 1997, the vendor for this system notified  
 21 Centra in 2005 that the system was being relegated to legacy status. The vendor  
 22 promised to provide support until the system was upgraded; however it was evident that

1 the level of support would decrease as the system aged. The project is considered to be  
2 necessary because it is required for safety, reliability and maintenance of business.  
3 Particulars of the plant additions for 2010/11 to 2012/13 are as follows:  
4

	2010/11	2011/12	2012/13
	<u>Actual</u>	<u>Actual</u>	<u>Forecast</u>
SCADA- Hardware	\$ 103	\$ 258	\$ 108
SCADA-Computer System Development	-	-	3,462
Structures & Improvement	-	-	209
Total	<u>\$ 103</u>	<u>\$ 258</u>	<u>\$ 3,779</u>

5  
6

7 ***Minnedosa High Pressure to Medium Pressure***

8 A large volume customer has reduced the load on the existing high pressure system  
9 running through the town of Minnedosa. A planning study was conducted resulting in a  
10 recommendation to downgrade the high pressure system to medium pressure. The  
11 downgrading will eliminate five high pressure services and a high pressure main in a  
12 densely populated area. The project was completed in 2010/11. Distribution main plant  
13 additions for the Minnedosa High Pressure to Medium Pressure project totalled \$103 in  
14 2010/11.

15

16 ***Rue Des Villeneuve Upgrade***

17 Due to extensive corrosion damage to the NPS 2 steel distribution main along Villeneuve  
18 Boulevard which caused multiple leaks, the mains and services needed to be replaced.  
19 Approximately 400 metres of NPS 2 main and 100 new services were installed. The  
20 project was completed in 2010/11. Particulars of the plant additions are as follows:  
21

	2010/11 Actual	2011/12 Actual
Services	\$ 49	\$ -
Regulators	3	-
Distribution Mains	181	60
Meters	50	-
Total	<u>\$ 283</u>	<u>\$ 60</u>

1  
2

3 **Other Distribution System Upgrades**

4 These capital expenditures consist primarily of a number of small projects that were  
5 constructed during 2010/11 and totalled \$224.



1 **9.2.6 Plant Additions – 2011/12**

2 Schedule 9.2.3 summarizes the capital additions totalling \$25,750 for 2011/12. A  
3 description of the capital projects greater than \$100 thousand is provided in this section.

4  
5 ***System Load Growth***

6 System load growth expenditures include the costs of installing new services and  
7 distribution mains. Particulars of the plant additions for 2011/12 are as follows:

Services	\$ 5,148
Regulators	1,870
Distribution Mains	3,669
Measuring & Regulating	5
Meters	1,153
Total	<u>\$ 11,845</u>

8  
9

10 ***Ploughing Projects***

11 Many of the Hutterite Colonies in the province use coal for heating. Attractive natural gas  
12 rates and changes in coal taxes and availability has encouraged a number of the  
13 Colonies to consider changing from coal to natural gas. Many of the Colonies are  
14 located within a nominal 10 kilometres of the existing natural gas system, and the  
15 required gas piping will be installed by ploughing. Other large agricultural or other  
16 businesses requiring longer ploughed gas main installations will also be included in this  
17 project classification. Approximately 51 km of pipe was installed in 2011/12 by ploughing  
18 to supply eight customers with natural gas. Distribution main and other plant additions  
19 for Ploughing Projects totalled \$2,019 in 2011/12.

20  
21

1 **Meters**

2 This is a continuation of the program discussed in Section 9.2.3. The increase in Meter  
3 replacements starting in 2012 is due to changes Measurement Canada made to the  
4 federal regulations (S-S-06 Sampling Plans for the Inspection of Isolated Lots of Meters  
5 in Service) covering the replacement of Gas meters. The changes created tighter  
6 tolerances on the meters which resulted in a shorter meter life. Meter plant additions  
7 totalled \$3,460 in 2011/12.

8

9 **System Capacity Upgrades**

10 System capacity upgrades are performed each year in areas as needed for the purpose  
11 of increasing the capacity of Centra's system as discussed in Section 9.2.3. Distribution  
12 main plant additions for System Capacity Upgrades totalled \$88 in 2011/12.

13

14 **Pipeline Relocations**

15 Pipeline relocations are performed each year as a result of proposed third party projects  
16 or where a pipeline is not in conformance with current code requirements, as discussed  
17 in Section 9.2.3. Particulars of the plant additions for 2011/12 are as follows:

Services	\$ 14
Distribution Mains	480
Total	<u>\$ 494</u>

18

19

20 **System Integrity Upgrades**

21 This program involves lowering, relocating or abandoning pipelines as a result of  
22 integrity related pipeline surveys or programs. Please refer to Section 9.2.3 for a  
23 discussion of the program. Particulars of the plant additions for 2011/12 are as follows:

Transmission Mains	\$ 161
Services	5
Distribution Mains	198
Total	<u>\$ 364</u>

1  
2  
3

**Regulator Station Upgrades**

4 Particulars of the plant additions for 2011/12 are as follows:

- 5 • Pressure regulating station upgrades, which are required to provide reliable and  
6 uninterrupted natural gas service, were completed for Dugald and Beausejour  
7 Gate Stations and the Ste Anne Primary Gate Station.
- 8 • The natural gas odourization facility at Oakbluff was upgraded to meet Centra's  
9 natural gas standards to provide the required odourant levels for natural gas  
10 detection.
- 11 • Station equipment upgrades and replacements due to obsolete equipment.
- 12 • Station structures and improvements; replaced buildings and fences as needed.

13 Please refer to Section 9.2.3 for a discussion of the project. Particulars of the plant  
14 additions for 2011/12 are as follows:

Land	\$ 3
Structures & Improvements - Measuring & Regulating	26
Measuring & Regulating Equipment	495
Telemetry Equipment	-
Total	<u>\$ 524</u>

15  
16  
17

**Integrity Management Projects**

18 Centra undertook the following activities to assess and maintain the integrity of the  
19 pipeline system in various locations. Please refer to Section 9.2.3 for a discussion of the  
20 projects.

- 1 • **Below Grade Entry Rehabilitation Project:** This is a continuation of the project that  
2 commenced in 2003/04. The rehabilitation of 55 locations was achieved in 2011/12.
- 3 • **Outside Meterset Rehabilitation Project:** This is a continuation of the project that  
4 commenced in 2004/05. The rehabilitation of 391 locations was achieved in 2011/12.  
5 This project was concluded one year ahead of the original forecast of 2012/13.
- 6 • **Mitigation of Ground Movement and Erosion on Transmission Pipelines:** This  
7 is a continuation of the project that commenced in 2005/06. In 2011/12 Centra  
8 completed the remediation of three sites.
- 9 • **Fabricated Riser Remedial Repair Project:** This is a continuation of the project that  
10 commenced in 2007/08. In 2011/12 remediation was completed in Portage La  
11 Prairie, Steinbach, Morden, Winkler and Winnipeg districts.

12 Particulars of the plant additions for 2011/12 are as follows:

Land Rights	\$ 5
Services	500
Transmission Mains	966
Measuring & Regulating Equipment	155
Total	<u>\$ 1,626</u>

13  
14

15 ***Cathodic Protection Upgrades***

16 This is a continuation of the program to upgrade cathodic protection. Please refer to  
17 Section 9.2.3 for a discussion of the program. Distribution main plant additions for  
18 Cathodic Protection Upgrades totalled \$520 in 2011/12.

19

20 ***LGS Regulator and Relief Vent Piping Upgrades***

21 This is a continuation of the program to upgrade LGS service vent piping. Please refer  
22 to Section 9.2.3 for a discussion of the project. Services plant additions for LGS

1 Regulator and Relief Vent Piping Upgrades totalled \$4 in 2011/12.

2

3 **System Upgrades – Services**

4 System upgrades include installation of new service guards, customer load changes,  
5 leak repairs, and upgrades due to code or standards violations. Please refer to Section  
6 9.2.3 for a discussion of the program. Particulars of the plant additions for 2011/12 are  
7 as follows:

Services	1,197
Distribution Mains	50
Total	<u>\$ 1,247</u>

8

9

10 **CentrePort NPS 16 Transmission Main Relocation**

11 This is the completion of the project that originally commenced in 2010/11. Please refer  
12 to section 9.2.5 for the discussion of this project. Transmission main plant additions for  
13 CentrePort NPS 16 Transmission Main Relocation totalled \$1,084 in 2011/12.

14

15 **Supervisory Control and Data Acquisition (SCADA)**

16 This is a continuation of the project that originally commenced in 2010/11. Please refer  
17 to section 9.2.5 for the discussion of this project. SCADA hardware plant additions  
18 totalled \$258 in 2011/12.

19

20 **Bunclody TP Main Crossing - Souris Riverbank Failure**

21 On July 12, 2011, a river bank on the Souris River at Bunclody Bridge collapsed as high  
22 water levels started to recede. This exposed the NPS 6 steel transmission natural gas  
23 main in the river. The river crossing is part of a one-way feed to approximately 1025 gas

1 customers in Deloraine, Boissevain, and Killarney.

2

3 High water flow rates were causing significant pipe vibration and presented a risk of  
4 failure of the exposed pipe. A temporary 370 metre bypass line was installed over a  
5 nearby bridge and the pipe in the river was abandoned. The installation of the  
6 permanent river crossing included a casing to address difficult geotechnical conditions.  
7 The new river crossing was completed in October 2011. Transmission main plant  
8 additions for Bunclody TP Main Crossing totalled \$1,446 in 2011/12.

9

10 ***Rue Des Villeneuve Upgrade***

11 This is the completion of the project that commenced in 2010/11. Please refer to section  
12 9.2.5 for the discussion of this project. Distribution main plant additions for Rue Des  
13 Villeneuve Upgrade totalled \$60 in 2011/12.

14

15 ***Provincial Road 305 and Rat River, Ste Agathe***

16 MIT became aware of an unstable road embankment on Provincial Road 305 near the  
17 Rat River which required immediate remediation. A review determined that the existing  
18 NPS 4 steel natural gas transmission main was at risk due to a potential failure of the  
19 embankment. Installation of approximately 375 meters of new steel main was required to  
20 relocate the existing main. Distribution main plant additions for Provincial Road 305 and  
21 Rat River, Ste Agathe totalled \$154 in 2011/12.

22

23 ***Henderson Highway Relocate NPS 4 Main***

24 During ditch maintenance along Henderson Highway, a number of locations were

1 identified where insufficient cover existed over the NPS 4 natural gas main. To address  
2 the insufficient cover in this area, it was necessary to install approximately 370 meters of  
3 new NPS 4 main and replace 14 services. Distribution main plant additions for  
4 Henderson Highway Relocate NPS 4 Main totalled \$178 in 2011/12.

5

6 ***Inkster Boulevard Widening***

7 The City of Winnipeg's Inkster Boulevard Road Twinning Project required the  
8 reconstruction of Inkster Boulevard from two lane to a four lane street. The construction  
9 of this project impacted the existing NPS 4 main at various locations on Inkster Blvd.  
10 Just east of Brookside Boulevard, it was necessary to relocate 45 meters of NPS 4 main.  
11 Particulars of the plant additions for 2011/12 are as follows:

Distribution Mains	22
Transmission Mains	94
Total	<u>\$ 116</u>

12

13

14 ***Other Distribution System Upgrades***

15 These capital expenditures consist primarily of a number of small projects that were  
16 constructed during 2011/12 and totalled \$263.

1 **9.2.7 Plant Additions – 2012/13 Forecast**

2 Schedule 9.2.4 summarizes the capital additions totalling \$27,874 which are forecast for  
3 the 2012/13 Test Year. A description of the capital projects greater than \$100 thousand  
4 is provided in this section.

5

6 **System Load Growth**

7 System load growth expenditures include the costs of installing new services and  
8 distribution mains. Particulars of the plant additions for 2012/13 are forecast as follows:

Services	\$ 4,118
Regulators	1,492
Distribution Mains	4,021
Meters	1,055
Total	<u>\$ 10,686</u>

9

10

11 **Ploughing Projects**

12 This work is a continuation of the ploughing projects performed in 2011/12. It is planned  
13 that approximately 150 km of pipe will be installed to supply gas to twenty-one  
14 customers. Please refer to Section 9.2.6 for a discussion of the project. Distribution main  
15 plant additions for Ploughing Projects are forecast to total \$4,000 in 2012/13.

16

17 **Meters**

18 This is a continuation of the program discussed in Section 9.2.3. Meter plant additions  
19 are forecast to total \$3,164 for 2012/13.

20

21 **System Capacity Upgrades**

22 System capacity upgrades are performed each year in areas as needed for the purpose



1 of increasing the capacity of Centra's system as discussed in Section 9.2.3. Distribution  
2 main plant additions for System Capacity Upgrades are forecast to total \$350 in  
3 2012/13.

4

5 ***Pipeline Relocations***

6 Pipeline relocations are performed each year as a result of proposed third party projects  
7 or where a pipeline is not in conformance with current code requirements, as discussed  
8 in Section 9.2.3. Particulars of the plant additions for 2012/13 are forecast as follows:

Transmission Mains	\$ 150
Distribution Mains	250
Total	<u>\$ 400</u>

9

10

11 ***System Integrity Upgrades***

12 This program involves lowering, relocating or abandoning pipelines as a result of  
13 integrity related pipeline surveys or programs. Please refer to Section 9.2.3 for a  
14 discussion of the program. Particulars of the plant additions for 2012/13 are forecast as  
15 follows:

Transmission Mains	\$ 250
Distribution Mains	100
Total	<u>\$ 350</u>

16

17

18 ***Regulator Station Upgrades***

19 The following upgrades are planned for 2012/13:

- 20 • Pressure regulating station upgrades which are required to provide reliable and  
21 uninterrupted natural gas service for Angle Road (Portage la Prairie), Elie and  
22 Oakville Gate Stations.

- 1       • A station bypass valve design will be provided for emergency and planned  
2           maintenance activities for the Russell gate station.
- 3       • The regulator stations on the Gladstone Austin system will be upgraded to  
4           provide property access for motor vehicles. Current station bypass capabilities  
5           and aging equipment will be upgraded to Centra natural gas standards. The  
6           upgrades will commence in 2012/13 and will conclude in 2015/16.
- 7       • A review of the odourant tank pressure relief systems identified that the relief  
8           valves were undersized to provide full relief in a fire exposure situation. A  
9           program to replace the existing valves at the twenty-six primary stations with  
10          odourant storage will be initiated in 2012/13 with the project to be completed in  
11          2014/15.
- 12      • A program to replace obsolete farm tap pressure regulating equipment will be  
13          initiated. It is expected to commence in 2012/13 and conclude in 2015/16.
- 14      • Station equipment upgrades and replacements due to obsolete equipment.
- 15      • Station structures and improvements; replace buildings and fences as needed.

16 Please refer to Section 9.2.3 for a discussion of the project. Particulars of the plant  
17 additions for 2012/13 are forecast as follows:

Land	\$ 50
Structures & Improvements - Measuring & Regulating	258
Measuring & Regulating Equipment	1,282
Telemetry Equipment	50
Total	<u>\$ 1,640</u>

18  
19

20 ***Integrity Management Projects***

21 Centra plans to undertake the following activities to assess and maintain the integrity of  
22 the pipeline system in various locations. Please refer to Section 9.2.3 for a discussion of

1 the projects.

2 • **Below Grade Entry Rehabilitation Project:** This is a continuation of the project  
3 that commenced in 2003/04. The rehabilitation of approximately 250 locations  
4 and the survey of the 200 remaining sites are planned for 2012/13.

5 • **Fabricated Riser Remedial Repair Project:** This is a continuation of the project  
6 that commenced in 2007/08. Work in Brandon is planned in 2012/13 and a list of  
7 all fabricated risers will be developed for periodic monitoring. The project will  
8 conclude in 2012/13. Any additional remediation will be managed through regular  
9 maintenance practices.

10 • **Mitigation of Ground Movement and Erosion on Transmission Pipelines:**  
11 This is a continuation of the project that commenced in 2005/06. In 2012/13  
12 Centra will remediate one site and continue the monitoring of the site that was  
13 started in 2010/11.

14 • **Other Integrity Management projects:** Centra actively gathers and analyzes  
15 data to proactively identify pipeline integrity issues and the need for remediation  
16 work to maintain the plant in a manner tight and safe for ongoing operations.

17 Particulars of the plant additions for 2012/13 are forecast as follows:

Services	\$ 481
Distribution Mains	200
Total	<u>\$ 681</u>

18  
19

20 ***Cathodic Protection Upgrades***

21 This is a continuation of the program to upgrade cathodic protection. Please refer to  
22 Section 9.2.3 for a discussion of the program. Particulars of the plant additions for

1 2012/13 are forecast as follows:

Distribution Mains	\$ 193
Transmission Mains	126
Total	<u>\$ 319</u>

2

3 ***LGS Regulator and Relief Vent Piping Upgrades***

4 This is a continuation of the program to upgrade LGS service vent piping. Approximately  
5 15 services require rebuilding. Please refer to Section 9.2.3 for a discussion of the  
6 program. This project will be complete in 2012/13. Services plant additions for LGS  
7 Regulator and Relief Vent Piping Upgrades are forecast to total \$40 thousand in  
8 2012/13.

9

10 ***System Upgrades - Services***

11 System upgrades include installation of new service guards, customer load changes,  
12 leak repairs, and upgrades due to code or standards violations. Please refer to Section  
13 9.2.3 for a discussion of the program. Services plant additions are forecast to total  
14 \$1,406 for 2012/13.

15

16 ***Ile des Chenes Natural Gas Transmission Network Upgrade***

17 This project will improve reliability of a major gas supply to the City of Winnipeg as well  
18 as communities north and east of Winnipeg by installing above grade isolation  
19 assemblies in two locations. The project involves the installation of approximately 220  
20 metres of NPS 12 steel natural gas transmission, one NPS 6 isolation valve assembly  
21 south of the floodway and one NPS 6 isolation valve assembly. This project will be  
22 completed in 2012/13. Transmission main plant additions for the Ile des Chenes Natural  
23 Gas Transmission Network Upgrade are forecast to total \$718 for 2012/13.

1 **Southglen Trailer Park Distribution Mains and Services Relocations**

2 Centra has identified that mobile homes, garages and other buildings had been  
3 constructed or placed over the natural gas plant within the Southglen Trailer Park. A  
4 project to abandon the existing mains and services and install 2,000 metres of NPS 2  
5 distribution main and approximately 90 new services is planned for 2012/13 to address  
6 the code violations and associated safety concerns. Particulars of the plant additions for  
7 2012/13 are forecast as follows:

Services	\$ 90
Distribution Mains	190
Total	<u>\$ 280</u>

8  
9

10 **Supervisory Control and Data Acquisition (SCADA)**

11 This is a continuation of the project that originally commenced in 2010/11. Please refer  
12 to section 9.2.5 for the discussion of this project. Particulars of the plant additions for  
13 2012/13 are forecast as follows:

Structures & Improvements - Measuring & Regulating	\$ 209
Computer Hardware	108
Computer Development	3,462
Total	<u>\$ 3,779</u>

14  
15

16 **Other Distribution System Upgrades**

17 These capital expenditures consist primarily of a number of small projects that are  
18 forecast to be incurred in 2012/13 but for which individual project amounts have yet to be  
19 committed. These projects are forecast to total \$61.

1 **9.2.8 Plant Additions – 2013/14 Test Year**

2 Schedule 9.2.5 summarizes the capital additions totalling \$28,897 which are forecast for  
3 the 2013/14 Test Year. A description of the capital projects greater than \$100 thousand  
4 is provided in this section.

5

6 ***System Load Growth***

7 System load growth expenditures include the costs of installing new services and  
8 distribution mains. Particulars of the plant additions for 2013/14 are forecast as follows:

Services	\$ 4,803
Regulators	1,743
Distribution Mains	3,713
Meters	1,231
Total	<u>\$ 11,490</u>

9

10

11 ***Ploughing Projects***

12 This work is a continuation of the ploughing projects started in 2011/12. Please refer to  
13 section 9.2.6 for a discussion of the project. Distribution main plant additions for  
14 Ploughing Projects are forecast to total \$4,000 in 2013/14.

15

16 ***Meters***

17 This is a continuation of the program discussed in Section 9.2.3. Meter plant additions  
18 are forecast to total \$3,695 in 2013/14.

19

20 ***System Capacity Upgrades***

21 System capacity upgrades are performed each year in areas as needed for the purpose  
22 of increasing the capacity of Centra's system as discussed in Section 9.2.3. Distribution

1 main plant additions for System Capacity Upgrades are forecast to total \$400 in  
2 2013/14.

3

4 ***Pipeline Relocations***

5 Pipeline relocations are performed each year as a result of proposed third party projects  
6 or where a pipeline is not in conformance with current code requirements, as discussed  
7 in Section 9.2.3. Particulars of the plant additions for 2013/14 are forecast as follows:

Transmission Mains	\$ 150
Distribution Mains	300
Total	<u>\$ 450</u>

8

9

10 ***System Integrity Upgrades***

11 This program involves lowering, relocating or abandoning pipelines as a result of  
12 integrity related pipeline surveys or programs. Please refer to Section 9.2.3 for a  
13 discussion of the program. Particulars of the plant additions for 2013/14 are forecast as  
14 follows:

Transmission Mains	\$ 250
Distribution Mains	150
Total	<u>\$ 400</u>

15

16

17 ***Regulator Station Upgrades***

18 The following upgrades are planned for 2013/14:

- 19
- New pressure regulating stations, which are required to improve reliability and  
20 ensure uninterrupted natural gas service, are planned for reinforcement of the St.  
21 Andrew's and Gimli distribution area.
  - Continuation of the program to replace obsolete farm tap pressure regulating  
22

1 equipment. This project commenced in 2012/13 and is expected to be completed  
2 in 2015/16.

3 • Continuation of the station facilities upgrades on the Gladstone Austin system.  
4 This program commenced in 2012/13 and is expected to be completed in  
5 2015/16.

6 • Continuation of the program to upgrade the odourant tank relief valves. The  
7 program commenced in 2012/13 and is expected to be completed in 2014/15.

8 • Station equipment upgrades and replacements due to obsolete equipment.

9 • Station structures and improvements; replace buildings and fences as needed.

10 Please refer to Section 9.2.3 for a discussion of the project. Particulars of the plant  
11 additions for 2013/14 are forecast as follows:

Land	\$ 50
Structures & Improvements - Measuring & Regulating	258
Measuring & Regulating Equipment	1,251
Telemetry Equipment	54
Total	<u>\$ 1,613</u>

12  
13

14 ***Integrity Management Projects***

15 Centra plans to undertake the following activities to assess and maintain the integrity of  
16 the pipeline system in various locations. Please refer to Section 9.2.3 for a discussion of  
17 the projects.

18 • **Below Grade Entry Rehabilitation Project:** This is a continuation of the project  
19 that commenced in 2003/04. The rehabilitation of approximately 1,000 locations  
20 is planned for 2013/14.

21 • **Other Integrity Management projects:** Centra actively gathers and analyzes  
22 data to proactively identify pipeline integrity issues and the need for remediation



1 works to maintain the plant in a manner tight and safe for ongoing operations.

2 Particulars of the plant additions for 2013/14 are forecast as follows:

Services	\$ 500
Distribution Mains	179
Total	<u>\$ 679</u>

3

4

5 ***Cathodic Protection Upgrades***

6 This is a continuation of the program to upgrade cathodic protection. Please refer to

7 Section 9.2.3 for a discussion of the program. Particulars of the plant additions for

8 2013/14 are forecast as follows:

Distribution Mains	\$ 199
Transmission Mains	126
Total	<u>\$ 325</u>

9

10 ***System Upgrades - Services***

11 System upgrades include installation of new service guards, customer load changes,

12 leak repairs, and upgrades due to code or standards violations. Please refer to Section

13 9.2.3 for a discussion of the program. Particulars of the plant additions for 2013/14 are

14 forecast as follows:

Services	\$ 1,639
----------	----------

15

16

17

18 ***Other Distribution System Upgrades***

19 These capital expenditures consist primarily of a number of projects that are anticipated

20 to be incurred in 2013/14 but for which individual project amounts were not approved

21 prior to finalization of Centra's forecast. These projects are forecast to total \$4,206.

1 **9.2.9 Plant Retirements**

2 Plant retirements are the removal of assets from plant in service that have outlived their  
3 useful life, are fully amortized, or are replaced by newer more economical equipment.  
4 Plant retirements are a reduction to gas plant in service.

5

6 The following table provides the schedule numbers that detail plant retirements by plant  
7 account as well as the retirement amount for each year:

<u>Schedule</u>	<u>Retirements</u>
9.1.0	2008/09 Actual \$ 3,876
9.1.1	2009/10 Actual \$ 8,164
9.1.2	2010/11 Actual \$ 4,940
9.1.3	2011/12 Actual \$ 10,030
9.1.4	2012/13 Forecast \$ 5,370
8 9.1.5	2013/14 Forecast \$ 5,288

9

10 **9.3 Construction Work in Progress**

11 Construction Work in Progress ("CWIP") relates to capital projects that are not  
12 completed by the end of the fiscal year and are excluded from rate base calculations.

13

14 Schedule 9.3.0 outlines the ending CWIP balances by project or plant account for each  
15 year. The following table provides the year end balances for CWIP:

<u>Year</u>	<u>CWIP</u>
2008/09 Actual	\$ 2,480
2009/10 Actual	\$ 1,159
2010/11 Actual	\$ 2,280
2011/12 Actual	\$ 3,802
2012/13 Forecast	\$ 1,857
16 2013/14 Forecast	\$ 1,788

1 **9.4 Accumulated Depreciation**

2 Accumulated depreciation represents a cumulative amount of depreciation calculated on  
3 plant in service net of plant retirements and salvage costs. Accumulated depreciation is  
4 a reduction to rate base. Depreciation expense is discussed in Tab 5, Section 5.7.

5

6 The following table provides the schedule numbers that detail accumulated depreciation  
7 by plant account as well as the year end accumulated depreciation amount for each  
8 year:

Schedule	Year End Balance
9.4.0 2008/09 Actual	\$ 211,702
9.4.1 2009/10 Actual	\$ 217,431
9.4.2 2010/11 Actual	\$ 225,896
9.4.3 2011/12 Actual	\$ 228,773
9.4.4 2012/13 Forecast	\$ 237,097
9.4.5 2013/14 Forecast	\$ 246,901

10

11 **9.5 Contributions in Aid of Construction**

12 Contributions in aid of construction are required to offset construction and operating  
13 costs of facilities in order to meet economic feasibility tests. Contributions are collected  
14 from customers, municipalities and other governments to ensure the feasibility of a  
15 particular project. Construction contributions, net of amortization, are a reduction in the  
16 calculation of rate base and are amortized against depreciation expense at the same  
17 rate as the facilities to which they relate.

18

19 The following table provides the schedule numbers that detail contributions by plant  
20 account as well as the year-end balance of net contributions for each year:

Schedule		Net Contributions
9.5.0	2008/09 Actual	\$ 45,827
9.5.1	2009/10 Actual	\$ 48,213
9.5.2	2010/11 Actual	\$ 48,919
9.5.3	2011/12 Actual	\$ 51,253
9.5.4	2012/13 Forecast	\$ 52,609
1 9.5.5	2013/14 Forecast	\$ 53,516

2

### 3 9.6 Working Capital Allowance

4 In addition to the utility plant that Centra finances, it also has an investment in working  
 5 capital. Working capital allowance consists of a cash working capital requirement, plus  
 6 the gas storage inventory and investment in DSM, less customer security deposits. To  
 7 the extent that Centra has an investment in working capital, it must recover the financing  
 8 costs of carrying the working capital. As such, for regulatory purposes, the total rate  
 9 base of Centra includes both the utility plant and an allowance for working capital.

10

11 The following table provides the schedule numbers that detail working capital allowance  
 12 calculations for each year:

Schedule		Working Capital
9.6.0	2008/09 Actual	\$ 115,867
9.6.1	2009/10 Actual	\$ 91,986
9.6.2	2010/11 Actual	\$ 100,022
9.6.3	2011/12 Actual	\$ 104,247
9.6.4	2012/13 Forecast	\$ 105,038
13 9.6.5	2013/14 Forecast	\$ 102,848

14

15

1 **9.6.1 Cash Working Capital Requirement**

2 The conceptual basis of the cash working capital requirement can be explained by  
3 considering the manner in which Centra collects its revenue requirement from its  
4 customers and the way it pays for the goods and services that it receives.

5

6 Centra provides service to its customers at rates that are approved by the PUB. The  
7 customer is billed by Centra at the end of the period of service, and pays the bill at a  
8 later date according to payment terms established by Centra. The period of time from  
9 which Centra renders the service to the date when customers pay for it is referred to as  
10 the revenue lag. Centra must supply the capital necessary to finance the accounts  
11 receivable during this lag period.

12

13 At the same time, Centra receives goods and services and incurs obligations on a daily  
14 basis from numerous parties including suppliers and taxing authorities. Centra pays  
15 these expenditures according to the established payment terms. Centra has use of the  
16 funds from the date that suppliers, and others render service to the date that Centra  
17 pays for the service (referred to as the payment lead). The payment lead reduces the  
18 capital required to finance the accounts receivable.

19

20 The cash working capital requirement is the difference between the capital that is  
21 required to finance the revenue lag and various payment leads, including purchased  
22 gas, operating expenses, property and income taxes, finance expense and non-cost of  
23 service tax collections.

24

1 The cash working capital requirement for 2008/09 through 2013/14 are provided in  
2 schedules 9.6.0 to 9.6.5. The basis for calculating the requested cash working capital  
3 requirement is the lead-lag analysis filed as part of the 2005/06 & 2006/07 General Rate  
4 Application.

5

#### 6 **9.6.2 Gas Storage Inventory**

7 The gas storage inventory amount included in rate base is \$39,474 for the 2013/14 Test  
8 Year, based on a 13 month average, as per Schedule 9.6.5

9

#### 10 **9.6.3 Security Deposits**

11 Security deposits are obtained from customers where necessary to ensure payment will  
12 be secured for gas supplied. Security deposits are a reduction to rate base because they  
13 reduce the investment required by Centra to conduct business. The security deposits  
14 balance for 2013/14 is \$400 as shown on Schedule 9.6.5.

15

#### 16 **9.6.4 Investment in DSM**

17 The investment in DSM amount included in rate base is \$47,572 for the 2013/14 Test  
18 Year, based on a 13 month average, as per schedule 9.6.5.

19

#### 20 **9.7 Overall Rate of Return**

21 The purpose of this section is to outline Centra's calculation of the overall rate of return  
22 on rate base for the 2013/14 Test Year.

23

24 Centra is financed, or capitalized, by a combination of long-term debt, short-term debt,

1 and equity. The overall rate of return is calculated by multiplying the cost of the various  
2 types of capital with their corresponding capital structure weighting and summing the  
3 results of the individual calculations. As such, the overall rate of return includes both the  
4 cost of debt financing and the required return on equity ("ROE").

5

6 The costs of the various types of capital as noted in Section 9.8, and the capital structure  
7 explained in Section 9.9, produces an overall rate of return for the 2013/14 Test Year of  
8 5.67% as per Schedule 9.7.5.

9

10 Centra's calculation of the overall rate of return is based on the following:

11

12 A capital structure for rate setting purposes of 62.1% long-term debt, 4.3% short-term  
13 debt, and 33.6% equity for 2013/14.

14

15 A cost of long-term debt of 5.25% for 2013/14 based on a 13 month average embedded  
16 cost of debt calculation and a cost of short-term debt of 2.30% for 2013/14.

17

18 A cost of equity financing or ROE of 6.89% using the ROE formula that was approved by  
19 The Public Utilities Board ("PUB") in Order 49/95.

20

21 The overall rate of return calculations for 2008/09 through 2011/12 can be found on  
22 Schedules 9.7.0 to 9.7.3.

23

24 Sections 9.8 and 9.9 provide details on the cost of capital and capital structure,

1 respectively. Section 9.10 provides the calculations of the return on rate base.

2

### 3 **9.8 Cost of Capital**

4 This section describes the calculation of the cost of various types of capital for 2013/14.

5

#### 6 **9.8.1 Cost of Equity**

7 The cost of equity has been calculated in accordance with the ROE formula that was  
8 approved by the PUB in Order 49/95. The formula uses the November Consensus  
9 forecast to determine the ROE for the Test Year. The November 2012 Consensus  
10 Forecast results in a ROE 6.89%. This calculation is used as the cost of equity for the  
11 2013/14 Test Year.

12

13 Order 49/95 (1995 Test Year Order) approved the use of a formula based approach for  
14 determining the approved ROE for the test year under examination. An equity risk  
15 premium approach was selected. The equity risk premium approach is based on the  
16 principle that equity is riskier than debt and, as such, investors will require a higher  
17 return on equity than on debt. This method estimates the ROE by adding an appropriate  
18 risk premium to a proxy of the risk free cost of debt. The proxy for the risk free rate of  
19 return is the projected yield on long-term government of Canada bonds ("Long Canada").

20

21 Specifically, the formula that was approved by the PUB to set Centra's allowed ROE is  
22 as follows:

23

24 The ROE for the 1995 Test Year was set at 12.12% based on a Long Canada forecast



1 of 9.12% and a risk premium or spread of 3.00%. The Long Canada forecast is  
2 calculated as the average of the 3 month and 12 month – 10 year Canada bond yield  
3 forecast as reported in the November Consensus Forecast report adjusted for the  
4 average 10 to 30 year Long Canada bond spread in the last 6 trading days in November.  
5 The formula and allowed risk premium was based on the approved capital structure of  
6 60% debt and 40% equity.

7

8 For the forecast years subsequent to 1995, the allowed ROE would be calculated as the  
9 1995 allowed ROE of 12.12% plus / minus 80% of the change in the Long Canada  
10 forecast for the test year.

11

12 The ROE formula resulted in a ROE of 11.28% for the 1996 Test Year, 9.58% for the  
13 1997 Test Year, 9.91% for the 1998 Test Year, 9.56% for the 2003/04 Test Year, 9.26%  
14 for the 2005/06 and 2006/07 Test Years, 8.21% for the 2007/08 and 2008/09 Test  
15 Years, and 8.36% for the 2009/10 and 2010/11 Test Years.

16

17 The formula produces a 2013/14 ROE of 6.89% using the November 2012 Consensus  
18 Forecast. Please see Appendix 9.1 for the supporting ROE calculations and Appendix  
19 9.2 for the November Consensus Forecast information. The average of the 3 and 12  
20 month November 2012 Consensus Forecast is 2.00% and the average of the 10 to 30  
21 year Long Canada spread in the last 6 trading days of November 2012 was 58 basis  
22 points (0.58%). This results in a Long Canada forecast of 2.58% (2.00% + 0.58%)  
23 according to the approved formula. The Long Canada forecast decrease is 6.54%  
24 (2.58% minus 9.12%). Applying the 80% adjustment factor to the decrease results in a

1 523 basis point reduction (from the 1995 approved ROE) in the ROE to 6.89% for  
2 2013/14.

3

4 Centra is aware of some regulators in Canada that have used rate of return formulas,  
5 have, since Centra's last General Rate Application, conducted various reviews of the  
6 cost of capital and capital structure. Centra is currently reviewing the outcomes of these  
7 reviews. Centra's rates are set with an emphasis on cost of service and as such the rate  
8 base rate of return serves as a guideline in Manitoba, rather than being determinative of  
9 Centra's rates.

10

#### 11 **9.8.2 Cost of Long-Term Debt**

12 The cost of long-term debt calculation includes all of Centra's debt issues as well as  
13 amortization of the redemption premium of Centra's stand alone debt. The 2013/14 cost  
14 of long-term debt has been calculated at 5.25% as per Schedule 9.8.5.

15

16 The cost of long-term debt for 2008/09 through 2011/12 is provided in Schedules 9.8.0  
17 to 9.8.3.

18

#### 19 ***Interest on Long Term Debt***

20 Interest rates for the long term advances to Centra are based on the associated cost of  
21 financing that was incurred by Manitoba Hydro at the time of the advance. The specific  
22 long term advances between Manitoba Hydro and Centra are as follows:

- 23     ▪ \$50 million principal, 4.505% coupon, March 5, 2037 maturity;
- 24     ▪ \$30 million principal, 6.300% coupon, October 29, 2032 maturity;

- 1       ▪ \$30 million principal, 5.175% coupon, March 5, 2040 maturity;
- 2       ▪ \$35 million principal, 3 month Banker's Acceptance Rate plus 0.484% coupon,  
3       February 22, 2015 maturity;
- 4       ▪ \$30 million principal, 4.726% coupon, February 22, 2030 maturity;
- 5       ▪ \$10 million principal, 4.638% coupon, August 22, 2037 maturity;
- 6       ▪ \$20 million principal, 4.638% coupon, September 30, 2037 maturity;
- 7       ▪ \$30 million principal, 4.629% coupon, March 31, 2035 maturity.
- 8       ▪ \$20 million principal, 3.178% coupon, September 18, 2022 maturity.
- 9       ▪ \$20 million principal, 3.281% coupon, September 18, 2033 maturity.
- 10      ▪ \$20 million principal, 3.413% coupon, September 18, 2042 maturity.

11

12   The \$50 million advance was issued to refinance the November 2006 maturity of a \$48.5  
13   million advance. The \$30 million advance was an extension of an October 2007 maturity.  
14   The \$30 million advance was issued for capital requirements of Centra.

15

16   The advances of \$35 million, \$30 million, and \$10 million were issued to refinance a \$75  
17   million February 2010 maturity. The \$20 million advance was issued to partially  
18   refinance a \$36.2 million March 2010 maturity. The \$30 million advance was issued for  
19   capital requirements of Centra. The advances of \$20 million, \$20 million, and \$20 million  
20   were issued to refinance a \$62.7 million September 2012 maturity.

21

22   There are no other projected new debt issues in fiscal year 2012/13. Projected new debt  
23   issues in fiscal year 2013/14 totalling \$30 million forecast to be issued March 2014  
24   include a \$15 million CAD fixed rate debt at a projected rate of 3.300%, and a \$15

1 million CAD floating rate debt at a projected floating rate of 3 month Banker's  
2 Acceptance rate plus 0.450%.

3

#### 4 **9.8.3 Cost of Short-Term Debt**

5 The cost of short-term debt is forecast to be 2.3% for the 2013/14 Test Year as shown  
6 on Schedule 9.7.5. This rate is based on a short-term interest rate forecast of 1.3% plus  
7 the Provincial Guarantee Fee of 1.0%. The 2.3% short-term debt forecast assumed a  
8 differential of 2.95% between short-term and long-term interest rates for 2013/14. Long-  
9 term bond rates were forecasted at 5.25% for that period.

10

#### 11 ***Operating Line of Credit***

12 Centra's operating credit is obtained through short-term advances from Manitoba Hydro.  
13 Short term advances were charged an interest rate equal to the average 1 month  
14 Bloomberg banker's acceptance rate for the 2008/09 fiscal year. As of April 1, 2009,  
15 Centra performs a true-up adjustment on a quarterly basis to ensure there has been no  
16 over- or under- recovery of short term finance costs charged to Centra from Manitoba  
17 Hydro. Effective April 1, 2011, Centra's intercompany interest rate was revised from the  
18 1 month Bloomberg banker's acceptance rate to the 3 month Canadian T-Bill rate, given  
19 that the 3 month Canadian T-Bill rate has an excellent alignment with Manitoba Hydro's  
20 actual experience and is also a readily available measure for short term interest rates.

21

#### 22 **9.9 Capital Structure**

23 This section discusses the appropriate capital structure for Centra and outlines the  
24 capitalization calculation for the 2013/14 Test Year.

1 **9.9.1 Appropriate Capital Structure**

2 The appropriate capital structure of Centra was examined in detail at the 1993 Test Year  
3 hearing for 1994 rates. In Order 8/94, the PUB approved an equity ratio not to exceed  
4 40% (i.e. approximately 40% equity and 60% debt) as the approved capital structure for  
5 Centra. In Order 49/95 (1995 Test Year), Order 8/97 (1997 Test Year), Order 79/98  
6 (1998 Test Year), Order 118/03 (2003/04 Test Year), Order 103/05 (2005/06 and  
7 2006/07 Test Years), Order 99/07 (2007/08 and 2008/09 Test Years), Order 128/09  
8 (2009/10 and 2010/11 forecasts) the PUB approved an equity ratio of 40%, 39.952%,  
9 39.061%, 38.6%, 32.3%, 33.4%, 30.2%, 31%, 29.9%, respectively.

10

11 **9.9.2 Capitalization Calculation for the 2013/14 Test Year**

12 Centra has calculated the capital structure weighting for the 2013/14 Test Year using the  
13 PUB approved methodology as follows:

14

- 15 1. The total capitalization is calculated by averaging the forecast year-end balances  
16 of the various types of capital.
- 17 2. The amount of equity is calculated based on the average of the forecast year-end  
18 equity balances. The equity balance includes retained earnings and share  
19 capital.
- 20 3. The amount of long-term debt is calculated based on the 13-month average of  
21 Centra's debt issues.
- 22 4. Short-term debt is calculated by subtracting the amount of equity and long-term  
23 debt from total capitalization (as determined in 1, 2 and 3 above).

24

1 The capital structure that results from the above noted calculations for the 2013/14 Test  
2 Year is 62.1% long-term debt, 4.3% short-term debt and 33.6% equity as per Schedule  
3 9.7.5.

4  
5 **9.10 Return on Rate Base**

6 The total return on rate base of \$30,929 for the 2013/14 Test Year, as per Schedule  
7 9.0.0, is made up of the return on rate base of \$27,758, as discussed in Section 9.10.1,  
8 plus financing adjustments of \$3,171, as discussed in Section 9.10.2.

9

10 **9.10.1 Return on Rate Base**

11 Schedule 9.9.5 provides a calculation of the return on rate base for the 2013/14 Test  
12 Year of \$30,929. Return on rate base is calculated by multiplying the overall rate of  
13 return of 5.67% (Schedule 9.7.5) by the total rate base amount of \$489,535 (Schedule  
14 9.0.0), plus financing adjustments of \$3,171, as discussed in Section 9.10.2.

15

16 The return on rate base (excluding financing adjustments) for each year can be found in  
17 the schedules listed below:

<u>Schedule</u>		<u>Return on Rate Base</u>
9.9.0	2008/09 Actual	\$ 33,692
9.9.1	2009/10 Actual	\$ 31,194
9.9.2	2010/11 Actual	\$ 32,208
9.9.3	2011/12 Actual	\$ 33,559
9.9.4	2012/13 Forecast	\$ 33,940
9.9.5	2013/14 Forecast	\$ 30,929

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1 **9.10.2 Financing Adjustments**

2 In addition to the cost of financing rate base items, revenue requirement also includes  
3 the cost of financing common assets and inventoried materials as discussed in Tab 5,  
4 Section 5.6. Schedule 5.6.0 provides the components of the financing adjustments for  
5 the 2008/09, 2009/10, 2010/11 and 2011/12 Actual Years, the 2012/13 Forecast and the  
6 2013/14 Test Year. The total adjustment for the 2013/14 Test Year is an increase to the  
7 return on rate base of \$3,171.