

1 **Confirm if Centra can provide summaries of all capital projects which have a value in**
2 **excess of \$250,000, demonstrating the justification for each project. If these summaries**
3 **cannot be provided, please provide an explanation as to why they cannot be provided.**

4
5 *Figure 23: Plant & Intangible Additions – Projects by Investment Category* on page 15 of
6 Appendix 6.1 of Centra’s Application, provides a summary of all Centra projects from
7 2011/12 through the 2019/20 test year. This summary includes the level 1 & 2 investment
8 categories (the primary driver for the investment) for each project as well as the value of
9 the plant and intangible additions for each fiscal year. In addition, a description for each
10 capital project has been included in the paragraphs following Figure 23 in Appendix 6.1.

11
12 *Figure 2 – Plant & Intangible Additions – Programs* on page 2 of Appendix 6.1 contains a
13 similar summary for Centra’s 10 Programs, followed by a description of each program and
14 the associated investment category driver(s) for each program. These programs are a
15 collection of similar investments that are managed in a coordinated way to obtain benefits
16 which may not be achieved when managed individually.

17
18 Within the various Programs, individual investments, often referred to as program items,
19 may be raised. A further breakdown of each of the 10 programs has been provided below
20 which summarizes the program items with a total cost greater than \$250,000, in a similar
21 format to Figure 23 for 2011/12 through 2017/18. In addition, a description for each
22 program item within the program follows the table.

23
24 The projected plant and intangible additions for the forecast years 2018/19 and 2019/20
25 are calculated by overall program and not by specific program items. Program forecasts are
26 based upon a mix of historical expenditure trends, ongoing investments and anticipated
27 near term requirements, which considers work in process, anticipated forecast flows, and
28 historical plant addition trends to determine the plant and intangible additions for the
29 forecast years.

Centra Gas Manitoba Inc. 2019/20 General Rate Application
PUB Completeness Review
Attachment 6

1 **New Business Program**

(\$ Thousands)

| Project Description | Investment Category - Level 1 | Investment Category - Level 2 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | |
|-------------------------------------|----------------------------------|----------------------------------|---------|---------|---------|---------|---------|---------|---------|------------------|----------------------|
| | | | | | | | | | | Forecast Year | 2019/20 Test Year |
| 2011-00005 | Capacity & Growth | Customer Connections | 672 | - | - | - | - | - | - | - | - |
| 2011-00011 | Capacity & Growth | Customer Connections | 258 | 1 | - | - | - | - | - | - | - |
| 2011-00042 | Capacity & Growth | Customer Connections | 276 | 12 | 1 | - | - | - | - | - | - |
| 2011-00047 | Capacity & Growth | Customer Connections | 257 | - | - | - | - | - | - | - | - |
| 2011-00088 | Capacity & Growth | Customer Connections | 260 | 4 | - | - | - | - | - | - | - |
| 2011-00096 | Capacity & Growth | Customer Connections | - | 327 | - | - | - | - | - | - | - |
| 2012-00072 | Capacity & Growth | Customer Connections | - | - | 299 | - | - | - | - | - | - |
| 2012-00135 | Capacity & Growth | Customer Connections | - | 419 | 21 | - | 1 | - | - | - | - |
| 2012-00702 | Capacity & Growth | Customer Connections | - | 284 | 2 | - | - | - | - | - | - |
| 2012-00703 | Capacity & Growth | Customer Connections | - | 1,148 | 8 | 10 | 0 | 1 | - | - | - |
| 2012-00706 | Capacity & Growth | Customer Connections | - | 499 | 3 | - | - | - | - | - | - |
| 2012-00710 | Capacity & Growth | Customer Connections | - | 312 | - | - | - | 7 | - | - | - |
| 2012-00713 | Capacity & Growth | Customer Connections | - | 280 | - | - | - | - | - | - | - |
| 2012-00714 | Capacity & Growth | Customer Connections | - | 359 | 0 | - | - | - | - | - | - |
| 2012-00715 | Capacity & Growth | Customer Connections | - | 1,594 | 14 | 6 | - | - | - | - | - |
| 2013-00062 | Capacity & Growth | Customer Connections | - | - | 103 | 210 | - | - | - | - | - |
| 2013-00098 | Capacity & Growth | Customer Connections | - | - | 380 | 4 | - | - | - | - | - |
| 2013-00107 | Capacity & Growth | Customer Connections | - | - | 77 | 170 | 3 | - | - | - | - |
| 2013-00700 | Capacity & Growth | Customer Connections | - | - | 399 | (3) | - | - | - | - | - |
| 2013-00712 | Capacity & Growth | Customer Connections | - | - | 316 | 1 | - | - | 2 | - | - |
| 2014-00001 | Capacity & Growth | Customer Connections | - | - | - | 347 | 2 | - | - | - | - |
| 2014-00073 | Capacity & Growth | Customer Connections | - | - | - | 966 | 3 | 2 | - | - | - |
| 2015-00015 | Capacity & Growth | Customer Connections | - | - | - | - | - | 291 | 2 | - | - |
| 2015-00083 | Capacity & Growth | Customer Connections | - | - | - | - | 161 | 214 | 0 | - | - |
| 2015-00120 | Capacity & Growth | Customer Connections | - | - | - | - | - | 857 | 3 | - | - |
| 2015-00802 | Capacity & Growth | Customer Connections | - | - | - | - | 550 | - | - | - | - |
| 2015-00827 | Capacity & Growth | Customer Connections | - | - | - | - | 959 | 52 | 1 | - | - |
| 2015-00830 | Capacity & Growth | Customer Connections | - | - | - | - | 165 | - | 134 | - | - |
| 2016-00808 | Capacity & Growth | Customer Connections | - | - | - | - | - | 514 | 2 | - | - |
| 2016-00837 | Capacity & Growth | Customer Connections | - | - | - | - | - | 343 | 3 | - | - |
| Other Program Items Less Than \$250 | Capacity & Growth | Customer Connections | 11,767 | 15,867 | 13,744 | 15,811 | 15,998 | 15,567 | 15,368 | - | - |
| Forecast Plant Additions | Capacity & Growth | Customer Connections | - | - | - | - | - | - | - | 17,755 | 18,275 |
| | | | 13,490 | 21,107 | 15,368 | 17,522 | 17,841 | 17,847 | 15,517 | 17,755 | 18,275 |
| Other Program Items Less Than \$250 | Sustainment | System Renewal | 498 | 665 | 545 | 592 | 622 | 765 | 224 | - | - |
| Forecast Plant Additions | Sustainment | System Renewal | - | - | - | - | - | - | - | 522 | 596 |
| | | | 498 | 665 | 545 | 592 | 622 | 765 | 224 | 522 | 596 |
| 2 Total Plant Additions | | | 13,988 | 21,772 | 15,912 | 18,115 | 18,464 | 18,612 | 15,740 | 18,277 | 18,870 |

2

3

4 **2011-00005**

5 This program item involved modifications at the GS-194 regulator station and the
6 installation of approximately 9,700 m of 114.3 mm medium density polyethylene pipe to
7 service a commercial customer.

8

9 **2011-00011**

10 This program item involved the installation of a new farm tap and approximately 5,800 m of
11 114.3 mm medium density polyethylene main to supply natural gas to an agricultural
12 customer.

13

14 **2011-00042**

15 This program item involved the connection to a medium pressure supply in Oakville and the
16 installation of approximately 5,800 m of 114.3 mm medium density polyethylene main to
17 supply natural gas to an agricultural customer.

1 **2011-00047**

2 This program item involved the installation of a new farm tap and approximately 7,100 m of
3 114.3 mm medium density polyethylene main to supply natural gas to an agricultural
4 customer.

5

6 **2011-00088**

7 This program item involved the installation of a new farm tap and approximately 3,400 m of
8 114.3 mm medium density polyethylene main to supply natural gas to a new customer near
9 Otterburne.

10

11 **2011-00096**

12 This program item involved the connection to an existing medium pressure main near GS-
13 167 St. Malo and the installation of approximately 9,200m of 114.3 mm medium density
14 polyethylene main to supply natural gas to an agricultural customer.

15

16 **2012-00072**

17 This program item involved the connection to an existing medium pressure main and the
18 installation of approximately 340 m of 114.3 mm medium density polyethylene main and
19 approximately 6,300 m of 60.3 mm medium density polyethylene main to pre-service 398
20 residential services in the Bridgwater Forest development.

21 **2012-00135**

22 This program item involved the connection to an existing medium pressure main in St.
23 Claude and the installation of approximately 2,100 m of 168.3 mm medium density
24 polyethylene main and 930 m of 114.3 mm medium density polyethylene main to supply
25 natural gas to a commercial customer located in Headingley.

26

27 **2012-00702**

28 This program item involved the installation of a new farm tap and installation of
29 approximately 8,600 m of 114.3 mm medium density polyethylene main to supply natural
30 gas to an agricultural customer.

1 **2012-00703**

2 This program item involved the connection to a high pressure supply at GS-164 Elie and the
3 installation of approximately 26,500 m of 114.3 mm high density polyethylene main to
4 supply natural gas to 5 agricultural customers.

5

6 **2012-00706**

7 This program item involved the connection to an existing high pressure main in Neepawa
8 and the installation of approximately 10,800 m of 114.3 mm high density polyethylene main
9 to supply natural gas to an agricultural customer.

10

11 **2012-00710**

12 This program item involved the installation of a new farm tap and installation of
13 approximately 10,200 m of 114.3 mm medium density polyethylene main to supply natural
14 gas to an agricultural customer.

15

16 **2012-00713**

17 This program item involved the connection to an existing steel medium pressure main and
18 the installation of approximately 7,250 m of 114.3 mm medium density polyethylene main
19 to supply natural gas to a commercial customer.

20

21 **2012-00714**

22 This program item involved the connection to an existing medium pressure main in St.
23 Claude and the installation of approximately 8,800 m of 114.3 mm medium density
24 polyethylene main and approximately 300 m of 60.3 mm medium density polyethylene
25 main to supply natural gas to a commercial customer.

26

27 **2012-00715**

28 This program item involved the connection to a high pressure supply at GS-16 Oakville and
29 the installation of approximately 37,000 m of 114.3 mm high density polyethylene main to
30 supply natural gas to 4 agricultural customers.

1 **2013-00062**

2 This program item involved the connection to an existing medium pressure main and the
3 installation of approximately 2,300 m of 114.3 mm medium density polyethylene main and
4 approximately 3,400 m of 60.3 mm medium density polyethylene main to pre-service 282
5 residential services in the Bridgwater Trails development.

6

7 **2013-00098**

8 This program item involved the connection to an existing medium pressure main in Carberry
9 and the installation of approximately 12,700 m of 114.3 mm medium density polyethylene
10 main to supply natural gas to a commercial customer.

11

12 **2013-00107**

13 This program item involved the connection to an existing medium pressure main and the
14 installation of approximately 40 m of 114.3 mm medium density polyethylene main and
15 approximately 1100 m of 60.3 mm medium density polyethylene main to pre-service 102
16 residential services in the Waterford Green development.

17 **2013-00700**

18 This program item involved the connection to a high pressure supply at GS-190 in Brandon
19 and the installation of approximately 15,600 m of 60.3 mm high density polyethylene main
20 to supply natural gas to an agricultural customer.

21

22 **2013-00712**

23 This program item involved the installation of a new farm tap and installation of
24 approximately 2,900 m of 114.3 mm medium density polyethylene main and 4,900 m of
25 60.3 mm medium density polyethylene main to supply natural gas to a commercial
26 customer.

27

28 **2014-00001**

29 This program item involved the connection to a high pressure supply in Neepawa and the
30 installation of approximately 2,700 m of 114.3 mm high density polyethylene main to loop
31 an existing natural gas supply and provide an increased natural gas flow rate to a
32 commercial customer.

1 **2014-00073**

2 This program item involved the connection to a high pressure supply at GS-014 Beausejour
3 and the installation of approximately 25,300 m of 114.3 mm high density polyethylene main
4 to supply natural gas to an agricultural customer.

5

6 **2015-00015**

7 This program item involved the connection to an existing medium pressure main and the
8 installation of approximately 900 m of 168.3 mm medium density polyethylene main, 970 m
9 of 114.3 mm medium density polyethylene main and approximately 2,600 m of 60.3 mm
10 medium density polyethylene main to pre-service 228 residential services in the South
11 Pointe, Phase 1, Stage 2 development.

12

13 **2015-00083**

14 This program item involved the connection to an existing medium pressure main and the
15 installation of approximately 900 m of 114.3 mm medium density polyethylene main and
16 approximately 5,200 m of 60.3 mm medium density polyethylene main to pre-service 445
17 lots in Bridgwater Trails, Phase 3.

18

19 **2015-00120**

20 This program item involved the connection to an existing medium pressure main and the
21 installation of approximately 2,800 m of 219.1 mm high density polyethylene main and
22 approximately 200 m of steel main to supply natural gas to a commercial customer.

23

24 **2015-00802**

25 This program item involved the connection to a high pressure supply and the installation of
26 approximately 16,000 m of 114.3 mm high density polyethylene main to supply natural gas
27 to an agricultural customer.

28

29 **2015-00827**

30 This program item involved station modifications at GS-131 MacGregor and the installation
31 of approximately 21,800 m of 114.3 mm high density polyethylene main and 1,300 m of
32 60.3 mm high density polyethylene main to supply natural gas to service agricultural and
33 commercial customers.

1 **2015-00830**

2 This program item involved the connection to an existing medium pressure main and the
3 installation of approximately 3,100 m of 114.3 mm medium density polyethylene main and
4 approximately 700 m of 60.3 mm medium density polyethylene main to pre-service a
5 commercial development in Fort Gary.

6

7 **2016-00808**

8 This program item involved the connection to an existing medium pressure main and the
9 installation of approximately 12,700 m of 114.3 mm medium density polyethylene main to
10 service a commercial customer.

11

12 **2016-00837**

13 This program item involved the connection to an existing medium pressure main and the
14 installation of approximately 6,600 m of 60.3 mm medium density polyethylene main to
15 service qualified customers in Woodlands and area.

16

17 **System Betterment – Relocation Program**

(\$ Thousands)

| Project Description | Investment Category - Level 1 | Investment Category - Level 2 | | | | | | | | 2018/19 | 2019/20 | |
|--|----------------------------------|----------------------------------|--------------|------------|------------|------------|--------------|--------------|--------------|------------------|--------------|---|
| | | | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | Forecast Year | Test Year | |
| 2011-01010 | Sustainment | Mandated Compliance | - | 370 | 3 | (2) | - | - | - | - | - | - |
| Henderson Highway & Red River | Sustainment | Mandated Compliance | - | - | - | - | 270 | 11 | - | - | - | - |
| Plessis-Dugald Underpass | Sustainment | Mandated Compliance | - | - | - | 287 | - | - | 9 | - | - | - |
| Sterling Lyon Parkway Upgrade | Sustainment | Mandated Compliance | - | - | - | - | 436 | 183 | - | - | - | - |
| Main Relocation Kirkcaldy Drive, Brand | Sustainment | Mandated Compliance | - | - | - | - | 322 | - | - | - | - | - |
| Bus Rapid Transit Mall Alterations | Sustainment | Mandated Compliance | - | - | - | - | - | - | 708 | - | - | - |
| PTH59 & PTH101 Transmission Mains | Sustainment | Mandated Compliance | - | - | - | - | - | 752 | 1 | - | - | - |
| Other Program Items Less Than \$250 | Sustainment | Mandated Compliance | 1,067 | 176 | 385 | 627 | 450 | 855 | 606 | - | - | - |
| Forecast Plant Additions | Sustainment | Mandated Compliance | - | - | - | - | - | - | - | 1,459 | 1,198 | - |
| | | | 1,067 | 546 | 387 | 912 | 1,478 | 1,799 | 1,324 | 1,459 | 1,198 | - |
| Other Program Items Less Than \$250 | Sustainment | System Renewal | 51 | 3 | 52 | 42 | 140 | 188 | 451 | - | - | - |
| Forecast Plant Additions | Sustainment | System Renewal | - | - | - | - | - | - | - | 204 | 168 | - |
| | | | 51 | 3 | 52 | 42 | 140 | 188 | 451 | 204 | 168 | - |
| Total Plant Additions | | | 1,118 | 550 | 439 | 954 | 1,617 | 1,987 | 1,775 | 1,663 | 1,366 | |

18

19

20 **2011-01010**

21 This program item was performed to address issues with habitable buildings being
22 constructed over the natural gas mains and services since the time of original installations.
23 The work included the abandonment of approximately 300 m of 114.3 mm steel main, 2000
24 m of 60.3 mm steel main, 200 m of 60.3 mm medium density polyethylene main and 148
25 services. The new installation included approximately 2000 m of 60.3 mm medium density
26 polyethylene main and 98 services.

1 **Henderson Highway & Red River**

2 This program item was performed to address identified issues with slope movement of the
3 riverbank. The work included the installation of granular filled trenches, placing of rip rap,
4 soil and willow planting to stabilize the river bank.

5

6 **Plessis-Dugald Underpass**

7 This program item was performed to relocate existing natural gas infrastructure to support
8 construction activities by the City of Winnipeg in the construction of the Plessis Dugald
9 Underpass. The project involved the abandonment of approximately 450 m of 219.1 steel,
10 medium pressure main and the installation of approximately 300 m of 114.3 mm of medium
11 density polyethylene main.

12

13 **Sterling Lyon Parkway Upgrade**

14 This program item was performed to address identified natural gas system capacity issues in
15 the area resulting from strong commercial growth. The project involved the installation of
16 approximately 450 m of 219.1 high density polyethylene main, approximately 500 m of
17 114.3 mm medium density polyethylene, 700 m of 60.3 mm medium density polyethylene
18 and the abandonment of approximately 100 m of 60.3 mm steel pipe.

19

20 **Main Relocation Kirkcaldy Drive, Brandon**

21 This program item was performed to relocate existing natural gas infrastructure to support
22 construction activities by the City of Brandon. This project involved the abandonment of
23 approximately 350 m of 219.1 steel main and the installation of approximately 375 m of
24 219.1 steel main.

25

26 **Bus Rapid Transit Mall Alterations**

27 This program item was performed to relocate existing natural gas infrastructure to support
28 construction of the Bus Rapid Transit extension by the City of Winnipeg. The major work
29 included the abandonment of approximately 300 m and the installation of approximately
30 310 m of 406.4 mm steel, high pressure main, with additional work to relocate or abandon
31 small sections of smaller medium pressure distribution piping.

1 **PTH59&PTH101 Transmission Mains**

2 This program item involved the relocation and abandonment of approximately 250m of a
 3 NPS 12 steel transmission pressure pipeline due to the construction of the PTH 59 and PTH
 4 101 Interchange.

6 **System Betterment – Integrity Program**

(\$ Thousands)

| Project Description | Investment Category - Level 1 | Investment Category - Level 2 | | | | | | 2018/19 | | | |
|---|----------------------------------|----------------------------------|---------|---------|---------|---------|---------|---------|---------|------------------|----------------------|
| | | | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | Forecast Year | 2019/20 Test Year |
| TP Line Relocate - La Salle | Sustainment | Mandated Compliance | - | - | 1,645 | 971 | 9 | 3 | - | - | - |
| Insufficient Cover Wilkes & Fairmont | Sustainment | Mandated Compliance | - | - | - | - | - | 267 | - | - | - |
| Pleasant Valley Creek in SW 2 | Sustainment | Mandated Compliance | - | - | - | - | - | - | 825 | - | - |
| NE 23-3-5W Deadhorse Creek | Sustainment | Mandated Compliance | - | - | - | - | 277 | - | 6 | - | - |
| Red River RM of St Clements | Sustainment | Mandated Compliance | - | - | - | - | 1,105 | - | - | - | - |
| Selkrk-Clandby Valve Install | Sustainment | Mandated Compliance | - | - | - | 375 | 7 | - | 1 | - | - |
| Lake Irwin, South of Neepawa | Sustainment | Mandated Compliance | - | - | - | - | - | - | 279 | - | - |
| La Salle NPS TPGS-001 to GS-015 | Sustainment | Mandated Compliance | - | - | - | - | 285 | 1 | - | - | - |
| Assiniboine Tributary (T1) | Sustainment | Mandated Compliance | - | - | - | - | - | 353 | - | - | - |
| Insufficient Cover Pine Creek SW 16-13-11W | Sustainment | Mandated Compliance | - | - | - | - | 233 | 9 | 25 | - | - |
| Insufficient Cover Pembina River NW Killarney | Sustainment | Mandated Compliance | - | - | - | - | - | - | 252 | - | - |
| Other Program Items Less Than \$250 | Sustainment | Mandated Compliance | 582 | 18 | 311 | 1,666 | 1,405 | 860 | 548 | - | - |
| Forecast Plant Additions | Sustainment | Mandated Compliance | - | - | - | - | - | - | - | 3,064 | 3,210 |
| | | | 582 | 18 | 1,956 | 3,012 | 3,321 | 1,492 | 1,935 | 3,064 | 3,210 |
| Other Program Items Less Than \$250 | Sustainment | System Efficiency | 497 | - | - | - | - | - | - | - | - |
| Forecast Plant Additions | Sustainment | System Efficiency | - | - | - | - | - | - | - | 4 | 5 |
| | | | 497 | - | - | - | - | - | - | 4 | 5 |
| Geotech Site 4, Winkler | Sustainment | System Renewal | - | - | - | 411 | (8) | - | - | - | - |
| Kenaston Blvd & Bishop Grandin | Sustainment | System Renewal | - | - | 434 | (101) | - | 18 | - | - | - |
| Grant & Kenaston Valve Replacement | Sustainment | System Renewal | - | - | - | - | - | 300 | - | - | - |
| Gas in-Line Inspection La Salle | Sustainment | System Renewal | - | - | - | - | 389 | - | - | - | - |
| Other Program Items Less Than \$250 | Sustainment | System Renewal | 717 | 435 | 847 | 656 | 858 | 1,498 | 1,067 | - | - |
| Forecast Plant Additions | Sustainment | System Renewal | - | - | - | - | - | - | - | 1,573 | 1,648 |
| | | | 717 | 435 | 1,282 | 966 | 1,239 | 1,817 | 1,067 | 1,573 | 1,648 |
| Total Plant Additions | | | 1,797 | 453 | 3,238 | 3,978 | 4,560 | 3,308 | 3,002 | 4,641 | 4,863 |

9 **TP Line Relocate - La Salle**

10 This program item involved replacing sections of the NPS 2, 8 and 12 transmission pipelines
 11 running north from the LaSalle Primary GS-015 to address an identified insufficient cover
 12 issue with the NPS 12 main and to accommodate the future relocation of PR330. Station
 13 modifications were also performed to prepare for future in-line inspection of the NPS 12
 14 pipeline.

16 **Insufficient Cover Wilkes & Fairmont**

17 This program item involved the remediation of approximately 210m of NPS 14 steel high
 18 pressure pipeline within Winnipeg. The remediation included the installation of mechanical
 19 protection over the pipeline.

21 **Pleasant Valley Creek in SW 2**

22 This program item involved the relocation and abandonment of approximately 140m of NPS
 23 6 steel transmission pressure pipeline due to an identified insufficient cover.

1 **NE 23-3-5W Deadhorse Creek**

2 This program item involved the relocation and abandonment of approximately 320m of NPS
3 4 steel transmission pressure pipeline due to an identified insufficient cover.

4

5 **Red River RM of St Clements**

6 This program item involved the remediation of an insufficient cover on the NPS 12
7 transmission pressure pipeline crossing the Red River near Selkirk. The remediation
8 included the installation of mechanical protection consisting of articulating concrete mats,
9 geotextile fabric and granular fill placed on the river bottom along the pipeline alignment.

10

11 **Selkirk-Clandboye Valve Install**

12 This program item involved the installation of a new NPS 8 steel transmission pressure
13 above grade valve between Selkirk and Clandeboye. It was discovered that a segment of the
14 NPS 8 transmission pressure pipeline had changed from a class 1 location to a class 3
15 location due to development along the pipeline and therefore, the pipeline no longer met
16 current or historical valve spacing requirements.

17

18 **Lake Irwin, South of Neepawa**

19 This program item involved the relocation and abandonment of approximately 110m of NPS
20 4 steel transmission pressure pipeline due to an identified insufficient cover.

21

22 **LaSalle NPS TP from GS-001 to GS-015**

23 This program item involved the repair of numerous defects identified by in-line inspection
24 on the NPS 12 steel transmission pipeline between GS-001 and GS-015. The work included
25 14 locations to be inspected for defects, evaluated and cut out and replaced as required.

26

27 **Assiniboine Tributary (T1)**

28 This program item involved the remediation of an insufficient cover over the existing NPS 3
29 and 4 steel transmission pressure pipelines crossing the Assiniboine River Tributaries. The
30 selected remediation was to install gabion mats and fieldstone over top of the pipelines to
31 provide adequate coverage and prevent future erosion.

1 **Insufficient Cover Pine Creek SW 16-13-11W**

2 This program item involved the replacement and abandonment of approximately 140m of
3 NPS 4 aluminum transmission pressure pipeline with steel due to an identified insufficient
4 cover. Geotechnical bank stabilization was provided as an interim solution until the pipeline
5 could be replaced. A temporary compressed natural gas (CNG) supply was used at the Jarvis
6 Station GS-201 to maintain supply to customers during the outage required for the
7 replacement.

8

9 **Insufficient Cover Pembina River NW Killarney**

10 This program item involved the relocation and abandonment of approximately 165m of NPS
11 4 steel transmission pressure pipeline due to an identified insufficient cover exposed within
12 the Pembina River.

13

14 **Geotech Site 4, Winkler**

15 This program item involved the replacement of two transmission pressure pipelines crossing
16 Tobacco Creek. The pipelines were originally identified as having insufficient cover and
17 further site investigations indicated geotechnical tension cracks observed within 2-3 meters
18 of the pipeline alignment which suggests future bank failure risks. The project included the
19 installation of approximately 135m of NPS 4 steel pipeline and abandonment of the existing
20 NPS 4 steel pipeline crossing Tobacco Creek.

21

22 **Kenaston Blvd & Bishop Grandin**

23 This program item involved the relocation and abandonment of approximately 1000 m of a
24 NPS 8 steel high pressure pipeline due to the construction of the future Kenaston Boulevard
25 and Bishop Grandin interchange.

26

27 **Grant & Kenaston Valve Replacement**

28 This program item involved the replacement of two NPS 4 and one NPS 8 below grade steel
29 valves on the high pressure system within Winnipeg. The valves were determined to be
30 inoperable for various reasons and were scheduled for replacement.

31

32 **Gas In-Line Inspection La Salle**

33 This program item involved performing an in-line inspection of the NPS 12 steel
34 transmission pipeline between GS-001 and GS-015. The in-line inspection identifies
35 potential defects to be located, exposed, evaluated and replaced if necessary.

1 System Betterment – Capacity & Other Program

(\$ Thousands)

| Project Description | Investment Category - Level 1 | Investment Category - Level 2 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | 2018/19 | |
|-------------------------------------|----------------------------------|----------------------------------|------------|------------|------------|--------------|--------------|--------------|--------------|------------------|----------------------|
| | | | | | | | | | | Forecast Year | 2019/20 Test Year |
| Other Program Items Less Than \$250 | Sustainment | Decommissioning | - | - | 2 | 38 | - | 8 | - | - | - |
| | | | - | - | 2 | 38 | - | 8 | - | - | - |
| | | | - | - | 2 | 38 | - | 8 | - | - | - |
| Other Program Items Less Than \$250 | Sustainment | Mandated Compliance | 106 | 12 | - | - | - | - | - | - | - |
| Forecast Plant Additions | Sustainment | Mandated Compliance | - | - | - | - | - | - | - | 4 | 6 |
| | | | 106 | 12 | - | - | - | - | - | 4 | 6 |
| Bridgwater Center | Sustainment | System Efficiency | - | - | - | 579 | - | - | - | - | - |
| 2014-01002 | Sustainment | System Efficiency | - | - | - | 327 | - | - | - | - | - |
| Niverville Upgrade | Sustainment | System Efficiency | - | - | (2) | 698 | 339 | - | - | - | - |
| Waverley West Upgrade Phase 1 | Sustainment | System Efficiency | - | - | - | - | - | 757 | 7 | - | - |
| Other Program Items Less Than \$250 | Sustainment | System Efficiency | 154 | 211 | 568 | 252 | 638 | 260 | 286 | - | - |
| Forecast Plant Additions | Sustainment | System Efficiency | - | - | - | - | - | - | - | 579 | 789 |
| | | | 154 | 211 | 566 | 1,855 | 977 | 1,018 | 293 | 579 | 789 |
| Watt Street and William Newton | Sustainment | System Renewal | - | - | - | - | - | - | 436 | - | - |
| Other Program Items Less Than \$250 | Sustainment | System Renewal | 80 | 37 | 267 | 256 | 260 | 735 | 356 | - | - |
| Forecast Plant Additions | Sustainment | System Renewal | - | - | - | - | - | - | - | 284 | 387 |
| | | | 80 | 37 | 267 | 256 | 260 | 735 | 792 | 284 | 387 |
| Total Plant Additions | | | 341 | 260 | 835 | 2,148 | 1,236 | 1,761 | 1,085 | 867 | 1,181 |

2

3

4 Bridgwater Center

5 This program item involved the pre-servicing of Bridgwater Centre so that customers in the
6 area could have services installed within the new development. The work included the
7 installation of approximately 5.7km of medium pressure polyethylene pipe ranging from
8 NPS 2 to NPS 8. The NPS 8 portion of the project is also required to feed the overall
9 Waverley West area.

10

11 2014-01002

12 This program item involved the replacement of the existing service to a commercial
13 customer to accommodate their expansion. The work included the installation of
14 approximately 400m of NPS 8 polyethylene pipe to replace the existing NPS 4 steel service.

15

16 Niverville Upgrade

17 This program item involved an upgrade to the natural gas medium pressure distribution
18 system supply to Niverville. The upgrade allows for future growth as well as an increase in
19 reliability with an additional feed into Niverville. The project included approximately 6.5km
20 of medium pressure polyethylene pipe ranging from NPS 2 to NPS 8.

21

22 Waverley West Upgrade Phase 1

23 This program item was required to increase available capacity in the developing Waverley
24 West neighbourhood. This first phase of the project included the installation of

1 approximately 4.3km of NPS 8 polyethylene pipeline along Kenaston Blvd and PTH 101 to
 2 support the significant load growth in the area.

3

4 **Watt Street and William Newton**

5 This program item involved the replacement of seven below grade steel valves on the high
 6 pressure system within Winnipeg. The valves were determined to be inoperable for various
 7 reasons and were scheduled for replacement. The valves ranged in size from NPS 4 to NPS
 8 12.

9

10 **System Betterment – Measurement & Regulation Stations Program**

(\$ Thousands)

| Project Description | Investment Category - Level 1 | Investment Category - Level 2 | | | | | | | | 2018/19 | 2019/20 |
|--------------------------------------|----------------------------------|----------------------------------|---------|---------|---------|---------|---------|---------|---------|------------------|-----------|
| | | | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 | 2016/17 | 2017/18 | Forecast Year | Test Year |
| GS-004 Selkirk Line Heater | Sustainment | System Efficiency | - | - | - | - | 266 | - | - | - | - |
| GS-150 Niverville Line Heater | Sustainment | System Efficiency | - | - | - | - | 286 | - | - | - | - |
| GS-139-Morden Line Heater | Sustainment | System Efficiency | - | - | - | - | - | 328 | - | - | - |
| GS-140 Winkler Line Heater | Sustainment | System Efficiency | - | - | - | - | - | 417 | - | - | - |
| GS-156 Steinbach Line Heater | Sustainment | System Efficiency | - | - | - | - | - | 376 | 2 | - | - |
| Other Program Items Less Than \$250 | Sustainment | System Efficiency | 6 | 73 | - | 20 | 35 | 176 | 499 | - | - |
| Forecast Plant Additions | Sustainment | System Efficiency | - | - | - | - | - | - | - | 759 | 844 |
| | | | 6 | 73 | - | 20 | 586 | 1,297 | 501 | 759 | 844 |
| Stonewall Station Upgrade | Sustainment | System Renewal | 3 | 23 | 410 | - | - | - | - | - | - |
| GS-182 Angle Road, Rebuild | Sustainment | System Renewal | - | 545 | 1 | 13 | - | - | - | - | - |
| GS-198 Novak Station Upgrade | Sustainment | System Renewal | - | 148 | 115 | 1 | - | - | - | - | - |
| GS-197 Cibula Station Upgrade | Sustainment | System Renewal | - | - | 310 | 1 | - | - | - | - | - |
| GS-196 Austin Station Upgrade | Sustainment | System Renewal | - | - | - | 387 | 1 | - | - | - | - |
| GS-105 Harrowby Gate Station Upgrade | Sustainment | System Renewal | - | - | - | - | 294 | 1 | - | - | - |
| GS-103 Russell Gate Station | Sustainment | System Renewal | - | - | - | - | - | 546 | - | - | - |
| GS-160 SteAnne TBS Station | Sustainment | System Renewal | - | - | - | - | - | - | 404 | - | - |
| GS-115 Hamiota Station Upgrade | Sustainment | System Renewal | - | - | - | - | - | - | 489 | - | - |
| Gas SCADA Upgrade Project | Sustainment | System Renewal | - | - | - | - | - | - | 512 | - | - |
| GS-014 Beausejour Station Upgrade | Sustainment | System Renewal | 340 | - | - | - | - | - | - | - | - |
| GS-199 Gladstone Station Upgrade | Sustainment | System Renewal | - | - | - | 372 | 1 | - | - | - | - |
| Other Program Items Less Than \$250 | Sustainment | System Renewal | 17 | 532 | 638 | 183 | 344 | 677 | 882 | - | - |
| Forecast Plant Additions | Sustainment | System Renewal | - | - | - | - | - | - | - | 2,007 | 2,230 |
| | | | 360 | 1,247 | 1,475 | 958 | 639 | 1,224 | 2,288 | 2,007 | 2,230 |
| | | | 367 | 1,320 | 1,475 | 977 | 1,225 | 2,522 | 2,788 | 2,766 | 3,074 |

11

12

13 **GS-004 Selkirk Line Heater**

14

15 In 2013, after experiencing operational issues stemming from high liquid levels in the gas
 16 stream, Manitoba Hydro engaged a consultant to review the gas system and provide
 17 recommendations to mitigate moisture in the gas distribution network. GS 004 Selkirk Gate
 18 Station was identified as having a high risk of freezing considering the high pressure cut,
 19 history of icing, large service load and sole feed to the City of Selkirk.

19

20

21 This program item involved installing a vacuum boiler line heater to pre-heat the station gas
 22 flow to mitigate solids formation at the pressure cut. This installation included valves, pipe
 connections, thermowells and a concrete foundation.

1 **GS-150 Niverville Line Heater**

2 In 2013, after experiencing operational issues stemming from high liquid levels in the gas
3 stream, Manitoba Hydro engaged a consultant to review the gas system and provide
4 recommendations to mitigate moisture in the gas distribution network. GS 150 Niverville
5 Primary Gate Station was identified as having a high risk of freezing considering the high
6 pressure cut (880 psig to 55 psig), history of icing, large service load and sole feed to the
7 town of Niverville.

8

9 This program item involved installing a vacuum boiler line heater to pre-heat the station gas
10 flow to mitigate solids formation at the pressure cut. This installation included valves, pipe
11 connections, thermowells and a concrete foundation.

12

13 **GS-139-Morden Line Heater**

14 In 2013, after experiencing operational issues stemming from high liquid levels in the gas
15 stream, Manitoba Hydro engaged a consultant to review the gas system and provide
16 recommendations to mitigate moisture in the gas distribution network. GS 139 Morden
17 Gate Station was identified as having a high risk of freezing considering the high pressure
18 cut, history of icing, large service load and sole feed to the town of Morden.

19

20 This program item involved installing a vacuum boiler line heater to pre-heat the station gas
21 flow to mitigate solids formation at the pressure cut. This installation included valves, pipe
22 connections, thermowells and a concrete foundation.

23

24 **GS-140 Winkler Line Heater**

25 In 2013, after experiencing operational issues stemming from high liquid levels in the gas
26 stream, Manitoba Hydro engaged a consultant to review the gas system and provide
27 recommendations to mitigate moisture in the gas distribution network. GS 140 Winkler
28 Gate Station was identified as having a high risk of freezing considering the high pressure
29 cut, history of icing, large service load and sole feed to the town of Winkler.

30

31 This program item involved installing a vacuum boiler line heater to pre-heat the station gas
32 flow to mitigate solids formation at the pressure cut. This installation included valves, pipe
33 connections, thermowells and a concrete foundation.

1 **GS-156 Steinbach Line Heater**

2 In 2013, after experiencing operational issues stemming from high liquid levels in the gas
3 stream, Manitoba Hydro engaged a consultant to review the gas system and provide
4 recommendations to mitigate moisture in the gas distribution network. GS 156 Steinbach
5 Gate Station was identified as having a high risk of freezing considering the high pressure
6 cut, history of icing, large service load and sole feed to the City of Steinbach.

7
8 This program item involved installing a vacuum boiler line heater to pre-heat the station gas
9 flow to mitigate solids formation at the pressure cut. This installation included valves, pipe
10 connections, thermowells, a concrete foundation, site expansion and fence modifications.

11
12 **Stonewall Station Upgrade**

13 GS-010 Stonewall Gate Station was upgraded to replace pressure regulation assets originally
14 installed in 1977. The upgrade included demolition of existing infrastructure and the
15 addition of an exterior station bypass, worker-monitor regulation and new building.

16
17 **GS-182 Angle Road, Rebuild**

18 This program item involved the installation of a new pressure regulating station to meet
19 current design and capacity standards including a remote bypass, a building and new
20 regulation.

21
22 **GS-198 Novak Station Upgrade**

23 This station was formerly part of the Gladstone Austin Natural Gas Co-op (GANG) network,
24 acquired by Manitoba Hydro in 2004. This upgrade addressed several station deficiencies to
25 bring the asset to Manitoba Hydro natural gas standards. The scope of work included
26 replacement all threaded transmission and high pressure threaded fittings and
27 improvements to site access/security.

28
29 **GS-197 Cibula Station Upgrade**

30 This station was formerly part of the GANG network, acquired by Manitoba Hydro in 2004.
31 This upgrade addressed several station deficiencies to bring the asset to Manitoba Hydro
32 natural gas standards. The scope of work included replacement all threaded transmission
33 and high pressure threaded fittings and improvements to site access/security.

1 **GS-196 Austin Station Upgrade**

2 This station was formerly part of the GANG network, acquired by Manitoba Hydro in 2004.
3 This upgrade addressed several station deficiencies to bring the asset to Manitoba Hydro
4 natural gas standards. The scope of work included replacement all threaded transmission
5 and high pressure threaded fittings and improvements to site access/security.

6

7 **GS-105 Harrowby Gate Station Upgrade**

8 GS-105 Harrowby Gate Station services a large industrial load and several farm taps. GS 105
9 was upgraded to address pipe misalignment and stress caused by frost jacking. A remote
10 bypass and electrical service were also included in the scope of work. This enabled pressure
11 monitoring and SCADA connection.

12

13 **GS-103 Russell Gate Station**

14 GS-103 was upgraded to address pipe misalignment caused by frost jacking, and remove
15 obsolete regulation equipment. The scope of work included new regulation and valve
16 equipment, a new building and provision for future line heater connection.

17

18 **GS-160 Ste. Anne TBS Station**

19 GS-160 was upgraded to address pipe misalignment caused by frost jacking, and remove
20 obsolete regulation equipment. The scope of work included new regulation and valve
21 equipment, a remote bypass and a new building.

22

23 **GS-115 Hamiota Station Upgrade**

24 GS-115 was upgraded to address pipe misalignment caused by frost jacking, and remove
25 obsolete regulation equipment. The scope of work included new regulation and valve
26 equipment, a remote bypass, a new building and provision for future line heater
27 connection.

28

29 **Gas SCADA Upgrade Project**

30 This program item was a software upgrade to OSI Monarch 2014 needed to stay current
31 with the OSI SCADA product advancement. The OSI SCADA upgrade consisted of OSI
32 Monarch platform software replacement from current version (v37) to the latest release of
33 Monarch 2014. Hardware upgrades were also executed to facilitate the new software
34 operating requirements.

1 **GS-014 Beausejour Station Upgrade**

2 This program item scope included the installation of a remote bypass, inlet strainer and new
3 station piping to address issues stemming from frost heave and pipeline debris.

4

5 **GS-199 Gladstone Station Upgrade**

6 This station was formerly part of the GANG network, acquired by Manitoba Hydro in 2004.
7 This upgrade addressed several station deficiencies to bring the asset to Manitoba Hydro
8 natural gas standards. The scope of work included replacement all threaded transmission
9 and high pressure threaded fittings and improvements to site access/security.

10

11 **Meter Compliance Program**

12 All program items are less than \$250,000 individually.

13

14 **Customer Service Operations Program**

15 All program items are less than \$250,000 individually.

16

17 **Gas Apparatus Maintenance & Control Program**

18 All program items are less than \$250,000 individually.

19

20 **Corrosion Control Program**

21 All program items are less than \$250,000 individually.

22

23 **Property Land Easements Program**

24 All program items are less than \$250,000 individually.