

December 2014

Capital Expenditure Forecast (CEF14)

2014/15 - 2033/34



Finance & Regulatory



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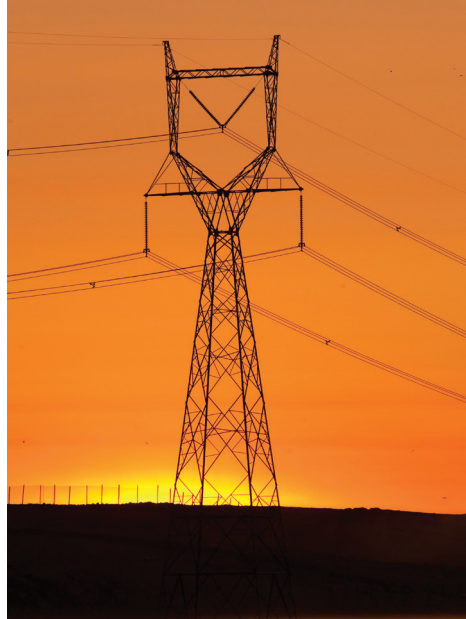
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Section 1

Overview

Capital Expenditure Forecast Summary
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Manitoba Hydro
Consolidated Capital Expenditure Forecast (CEF14)
For the Years 2014/15 – 2033/34

1.0 Overview

The Capital Expenditure Forecast (CEF14) is a projection of Manitoba Hydro's capital expenditures for new and replacement facilities to meet the electricity and natural gas service requirements in the Province of Manitoba as well as expenditures required to meet firm sale commitments outside the province. Expenditures included in the Capital Expenditure Forecast will provide for an ongoing safe and reliable supply of energy in the most efficient and environmentally sensitive manner.

The Capital Expenditure Forecast is comprised of a number of specifically identified large projects or "major items" as well as numerous unspecified smaller projects referred to as "base items." Major items are normally greater than \$50 million in total cost and the construction period on each major item usually extends beyond one year. Base capital expenditure items typically represent sustaining capital requirements to meet electricity and natural gas service replacements and expansions throughout the province. All major and base capital projects are subjected to a rigorous review and approval process before being included in the Capital Expenditure Forecast

The CEF14 includes Major New Generation & Transmission projects which increase capacity and energy or provide increased reliability. In August 2013, the Province of Manitoba issued an Environmental Act licence for the Bipole III Reliability project and construction has commenced with a planned in-service date of 2018/19. In July 2014 the Province of Manitoba issued an Environmental Act licence for the Keeyask Generating Station and construction has commenced with a planned in-service date of 2019/20. Manitoba Hydro continues to develop the Manitoba-Minnesota Transmission Project, a transmission interconnection into the U.S. which supports enhanced export capability, reliability and drought risk mitigation. The Province also endorsed Manitoba Hydro's new, more aggressive demand side management PowerSmart plan which targets a 250% increase in consumption savings.

For CEF14 forecast purposes, it is assumed that the Conawapa Generating Station has been suspended and replaced with a gas turbine required in 2037/38 to meet firm capacity requirements. While the majority of the planning and licensing activities on Conawapa have been suspended, Manitoba Hydro continues to pursue dependable firm export sales based on the earliest possible in-service date of Conawapa in 2029/30 and will re-evaluate the business case (currently anticipated by Fall of 2016).

Base capital targets established for fiscal years 2014/15 through 2020/21 in CEF14 considered increased requirements for aging infrastructure based upon asset condition assessments. Beginning in 2021/22, base capital targets are escalated at a minimum 2% annually.

Capital Expenditure Forecast Summary

The CEF14 totals \$25 953 million for the twenty year period to 2033/34. Expenditures for Major New Generation & Transmission (MNG&T) total \$12 611 million, with the balance of \$13 342 million comprised of expenditures for infrastructure renewal, system safety and security, new and increasing load requirements, and ongoing efficiency improvements.

Comparison to CEF13

The CEF14 for the twenty year period to 2033/34 totals \$25 953 million compared to \$33 474 million for the same twenty year period included in last year's Capital Expenditure Forecast (CEF13).

Manitoba Hydro
Consolidated Capital Expenditure Forecast (CEF14)
 For the Years 2014/15 – 2033/34

| | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 10 Year Total |
|--------------|-------|-------|-------|-------|-------|-------|-------|-------|---------|---------|---------------|
| CEF13 | 2 062 | 2 483 | 2 543 | 2 358 | 2 061 | 1 878 | 1 372 | 1 755 | 2 319 | 2 359 | 21 191 |
| Incr (Decr) | 9 | 73 | 580 | 803 | 52 | (408) | (333) | (962) | (1 595) | (1 635) | (3 416) |
| CEF14 | 2 071 | 2 556 | 3 124 | 3 161 | 2 113 | 1 470 | 1 039 | 793 | 724 | 724 | 17 774 |

| | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 20 Year Total |
|--------------|---------|---------|---------|-------|-------|-------|------|------|------|------|---------------|
| CEF13 | 2 162 | 2 048 | 1 838 | 1 399 | 1 098 | 922 | 828 | 680 | 630 | 679 | 33 474 |
| Incr (Decr) | (1 384) | (1 264) | (1 054) | (623) | (305) | (151) | (8) | 154 | 245 | 285 | (7 521) |
| CEF14 | 778 | 784 | 785 | 776 | 793 | 771 | 820 | 834 | 875 | 963 | 25 953 |

The following table provides a summary of the major changes to CEF14.

| | Total Projected Cost | 10 Year Increase (Decrease) | 20 Year Increase (Decrease) |
|--|----------------------|-----------------------------|-----------------------------|
| | (\$ Millions) | | |
| Conawapa - Generation | 397 | (6 052) | (10 065) |
| Base Capital Target | NA | 422 | 1 957 |
| Pointe du Bois Powerhouse Rebuild | 1 852 | (19) | (1 471) |
| Bipole III - Converter Stations | 2 675 | 881 | 881 |
| Demand Side Management * | NA | 463 | 802 |
| Additional North South Transmission | - | (90) | (475) |
| Bipole III - Transmission Line | 1 655 | 407 | 407 |
| Keyask - Generation | 6 496 | 349 | 349 |
| Gillam Redevelopment and Expansion Program | 266 | (77) | (100) |
| Gas Demand Side Management * | NA | 50 | 92 |
| Bipole III - Collector Lines | 260 | 71 | 71 |
| Dorsey 230KV Zone Building | - | (63) | (63) |
| New Adelaide Station - 66/12kV | 62 | 62 | 62 |
| Slave Falls Major Overhauls | 126 | (63) | - |
| Other System Upgrades | | 243 | 32 |
| | | (3 416) | (7 521) |

*Assumes that Demand Side Management expenditures will continue to be capitalized upon adoption of IFRS in 2015/16 under the interim standard that continues to permit rate regulated accounting.

Manitoba Hydro
Consolidated Capital Expenditure Forecast (CEF14)
 For the Years 2014/15 – 2033/34

CAPITAL EXPENDITURE FORECAST (CEF14)
 (in millions of dollars)

| | Total Project Cost | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 10 Year Total |
|--|--------------------|----------------|----------------|----------------|----------------|----------------|--------------|--------------|--------------|--------------|--------------|-----------------|
| Major New Generation & Transmission | | | | | | | | | | | | |
| Wuskwatim - Generation | 1 448.6 | 40.5 | 12.9 | 14.7 | - | - | - | - | - | - | - | 68.1 |
| Keeyask - Generation | 6 496.1 | 776.3 | 676.3 | 962.2 | 1 351.3 | 927.9 | 616.5 | 208.6 | 55.2 | 4.5 | 0.1 | 5 578.8 |
| Grand Rapids Hatchery Upgrade & Expansion | 23.5 | 1.9 | 4.7 | 9.3 | 6.8 | - | - | - | - | - | - | 22.6 |
| Conawapa - Generation | 397.0 | 43.4 | 31.4 | 21.0 | - | - | - | - | - | - | - | 95.8 |
| Kelley Improvements & Upgrades | 340.4 | 14.1 | 9.1 | 12.9 | 1.3 | - | - | - | - | - | - | 37.3 |
| Kettle Improvements & Upgrades | 191.6 | 6.6 | 23.5 | 24.6 | 22.0 | 31.7 | 29.5 | - | - | - | - | 137.9 |
| Pointe du Bois Spillway Replacement | 574.8 | 114.1 | 51.6 | 3.8 | - | - | - | - | - | - | - | 169.5 |
| Pointe du Bois - Transmission | 114.3 | 15.8 | 17.1 | 13.8 | 4.3 | - | - | - | - | - | - | 50.9 |
| Pointe du Bois Powerhouse Rebuild | 1 852.2 | - | - | - | - | - | - | - | - | - | - | - |
| Gillam Redevelopment and Expansion Program (GREP) | 266.5 | 20.0 | 22.4 | 22.8 | 21.8 | 20.2 | 18.6 | 21.3 | 20.9 | 19.1 | 24.6 | 211.6 |
| Bipole III - Transmission Line | 1 655.4 | 203.5 | 360.5 | 381.0 | 493.8 | 75.3 | - | - | - | - | - | 1 514.0 |
| Bipole III - Converter Stations | 2 675.1 | 221.1 | 580.8 | 828.7 | 507.7 | 195.1 | 18.4 | 4.5 | - | - | - | 2 356.3 |
| Bipole III - Collector Lines | 260.2 | 58.4 | 75.5 | 51.7 | 36.7 | 4.7 | - | - | - | - | - | 227.0 |
| Bipole III - Community Development Initiative | 62.0 | 2.3 | 2.0 | 1.8 | 1.6 | 0.5 | - | - | - | - | - | 8.1 |
| Riet 230/500KV Station | 329.9 | 36.4 | 5.6 | - | - | - | - | - | - | - | - | 42.0 |
| Manitoba-Minnesota Transmission Project | 350.3 | 7.0 | 32.7 | 99.6 | 59.5 | 65.7 | 48.1 | 35.4 | - | - | - | 348.0 |
| Demand Side Management | NA | 51.8 | 59.2 | 76.6 | 83.9 | 93.7 | 78.2 | 72.5 | 60.8 | 50.0 | 49.6 | 676.2 |
| Generating Station Improvements & Upgrades | NA | - | - | - | - | - | 2.8 | 33.0 | 33.6 | 34.3 | 35.0 | 138.6 |
| Target Adjustment (Cost Flow) | NA | (161.3) | (51.4) | (61.1) | (12.7) | 116.3 | 71.9 | 50.9 | 25.6 | 8.8 | 0.7 | (12.2) |
| MAJOR NEW GENERATION & TRANSMISSION TOTAL | | 1 451.7 | 1 913.9 | 2 463.5 | 2 577.8 | 1 530.9 | 884.0 | 426.2 | 196.1 | 116.6 | 110.0 | 11 670.7 |

Manitoba Hydro
Consolidated Capital Expenditure Forecast (CEF14)
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CAPITAL EXPENDITURE FORECAST (CEF14)
 (in millions of dollars)

| | Total Project Cost | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 10 Year Total |
|---|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| Major & Base Capital Electric | | | | | | | | | | | | |
| Generation Operations | | | | | | | | | | | | |
| Pine Falls Units 1-4 Major Overhauls | 142.2 | 7.2 | 0.7 | 14.0 | 26.4 | 29.6 | 40.9 | - | - | - | - | 118.8 |
| Jenpeg Overhaul Program | 115.9 | - | - | - | - | - | - | - | - | - | - | 2.7 |
| Slave Falls Major Overhauls | 126.1 | - | - | - | - | - | 2.5 | 2.4 | 19.4 | 18.8 | 19.9 | 63.0 |
| Pointe du Bois GS Rehabilitation | 182.9 | 10.1 | 15.4 | 47.0 | 50.0 | 25.2 | 9.8 | 11.2 | - | - | - | 168.7 |
| Great Falls Unit 4 Overhaul | 53.6 | 15.8 | 14.2 | - | - | - | - | - | - | - | - | 30.0 |
| Brandon Units 6 & 7 "C" Overhaul Program | 50.4 | - | - | - | - | - | 6.0 | 0.4 | 17.5 | 7.8 | 18.8 | 50.4 |
| Base Capital | NA | 98.9 | 101.6 | 71.0 | 55.7 | 77.2 | 72.7 | 118.1 | 97.8 | 110.7 | 98.7 | 902.4 |
| Total | NA | 132.0 | 132.0 | 132.0 | 132.0 | 132.0 | 132.0 | 132.0 | 134.6 | 137.3 | 140.1 | 1 336.1 |
| Transmission | | | | | | | | | | | | |
| Rockwood East 230/115kV Station | 53.3 | 26.6 | 11.1 | - | - | - | - | - | - | - | - | 37.7 |
| Lake Winnipeg East System Improvements | 64.6 | 14.2 | 35.8 | 8.2 | - | - | - | - | - | - | - | 58.2 |
| Letellier - St. Vital 230kV Transmission | 59.0 | 1.3 | 3.7 | 37.0 | 13.9 | 1.6 | - | - | - | - | - | 57.5 |
| Transmission Line Upgrades for NERC-Alert | 151.3 | 1.0 | 8.6 | 8.8 | 8.9 | 23.3 | 23.7 | 24.2 | 24.7 | 27.9 | - | 151.3 |
| HVDC Dorsey Synchronous Condenser Refurbishment | 73.3 | 8.7 | 8.5 | 2.7 | 5.2 | 2.2 | 2.3 | 2.4 | 2.7 | - | - | 34.7 |
| Dorsey 230kV Phase II Zone Building | NA | - | - | - | - | - | - | - | - | - | - | - |
| Bipole 2 Thyristor Valve Replacement | 233.7 | - | - | - | 2.1 | 13.2 | 22.9 | 56.9 | 57.9 | 59.0 | 21.8 | 233.7 |
| Base Capital | NA | 73.2 | 57.3 | 68.3 | 94.8 | 84.8 | 76.1 | 66.5 | 64.7 | 63.0 | 128.2 | 777.0 |
| Total | NA | 125.0 | 125.0 | 125.0 | 125.0 | 125.0 | 125.0 | 150.0 | 150.0 | 150.0 | 150.0 | 1 350.0 |

Manitoba Hydro
Consolidated Capital Expenditure Forecast (CEF14)
 For the Years 2014/15 – 2033/34

CAPITAL EXPENDITURE FORECAST (CEF14)
 (in millions of dollars)

| | Total Project Cost | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 10 Year Total |
|---|--------------------|---------|---------|---------|---------|---------|---------|---------|-------|-------|-------|---------------|
| Customer Service & Distribution | | | | | | | | | | | | |
| New Madison Station - 115/24kV Station | 87.1 | 32.6 | 33.6 | 12.8 | - | - | - | - | - | - | - | 79.0 |
| St. Vital Station - 115/24kV Station | 51.3 | 0.3 | 3.0 | 20.0 | 7.9 | - | - | - | - | - | - | 51.2 |
| Dawson Road Station - 115/24kV Station | 51.8 | 2.5 | 0.5 | 3.0 | 16.5 | 20.0 | 9.3 | - | - | - | - | 51.8 |
| Burrows New 66/12kV Station | 54.7 | 2.4 | - | - | - | - | - | - | - | - | - | 2.4 |
| New Adelaide Station - 66/12kV | 62.1 | 0.7 | 21.2 | 22.9 | 8.8 | 5.0 | 3.4 | - | - | - | - | 62.0 |
| Base Capital | NA | 197.0 | 182.6 | 209.6 | 160.7 | 173.0 | 193.3 | 206.0 | 210.1 | 214.3 | 218.6 | 1 965.3 |
| Total | NA | 235.5 | 240.9 | 268.3 | 206.0 | 206.0 | 206.0 | 206.0 | 210.1 | 214.3 | 218.6 | 2 211.8 |
| Customer Care & Energy Conservation | NA | 3.2 | 4.0 | 4.1 | 4.1 | 4.2 | 4.3 | 4.4 | 3.6 | 3.7 | 3.7 | 39.2 |
| Human Resources & Corporate Services | NA | 75.0 | 75.0 | 55.0 | 55.0 | 55.0 | 55.0 | 55.0 | 56.1 | 57.2 | 58.4 | 596.7 |
| Finance & Regulatory | NA | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 2.2 |
| | 570.9 | 577.0 | 584.6 | 522.3 | 522.4 | 522.4 | 522.5 | 547.6 | 554.7 | 562.8 | 571.0 | 5 535.9 |
| Gas | | | | | | | | | | | | |
| Customer Service & Distribution | NA | 34.9 | 49.0 | 34.9 | 22.3 | 21.2 | 24.4 | 26.1 | 27.7 | 30.0 | 28.3 | 298.8 |
| Customer Care & Energy Conservation | NA | 3.4 | 5.4 | 4.6 | 4.7 | 4.8 | 4.9 | 5.0 | 5.1 | 5.2 | 5.3 | 48.1 |
| Gas Demand Side Management | NA | 9.6 | 10.4 | 11.0 | 9.4 | 8.7 | 8.9 | 8.9 | 9.3 | 9.5 | 9.9 | 95.5 |
| | 48.0 | 64.9 | 50.5 | 36.3 | 34.7 | 34.7 | 38.1 | 39.9 | 42.0 | 44.7 | 43.4 | 442.5 |
| Major & Base Capital Target Adjustment | NA | - | - | 25.0 | 25.0 | 25.0 | 25.0 | 25.0 | - | - | - | 125.0 |
| MAJOR & BASE CAPITAL TOTAL | | 618.9 | 641.9 | 660.1 | 583.7 | 582.1 | 585.6 | 612.6 | 596.7 | 607.5 | 614.4 | 6 103.4 |
| CONSOLIDATED CEF14 TOTAL | | 2 070.6 | 2 555.8 | 3 123.6 | 3 161.5 | 2 113.0 | 1 469.6 | 1 038.7 | 792.8 | 724.1 | 724.4 | 17 774.1 |
| ELECTRIC CAPITAL TOTAL | | 2 022.6 | 2 490.9 | 3 073.1 | 3 125.2 | 2 078.3 | 1 431.5 | 998.8 | 750.8 | 679.4 | 681.0 | 17 331.7 |
| GAS CAPITAL TOTAL | | 48.0 | 64.9 | 50.5 | 36.3 | 34.7 | 38.1 | 39.9 | 42.0 | 44.7 | 43.4 | 442.5 |

Manitoba Hydro
Consolidated Capital Expenditure Forecast (CEF14)
 For the Years 2014/15 – 2033/34

CAPITAL EXPENDITURE FORECAST (CEF14)
 (in millions of dollars)

| | Total Project Cost | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 20 Year Total |
|--|--------------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|--------------|-----------------|
| Major New Generation & Transmission | | | | | | | | | | | | |
| Wuskwatim - Generation | 1 448.6 | - | - | - | - | - | - | - | - | - | - | 68.1 |
| Keeyask - Generation | 6 496.1 | - | - | - | - | - | - | - | - | - | - | 5 578.8 |
| Grand Rapids Hatchery Upgrade & Expansion | 23.5 | - | - | - | - | - | - | - | - | - | - | 22.6 |
| Conawapa - Generation | 397.0 | - | - | - | - | - | - | - | - | - | - | 95.8 |
| Kelsey Improvements & Upgrades | 340.4 | - | - | - | - | - | - | - | - | - | - | 37.3 |
| Kettle Improvements & Upgrades | 191.6 | - | - | - | - | - | - | - | - | - | - | 137.9 |
| Pointe du Bois Spillway Replacement | 574.8 | - | - | - | - | - | - | - | - | - | - | 169.5 |
| Pointe du Bois - Transmission | 114.3 | - | - | - | - | - | - | - | - | - | - | 50.9 |
| Pointe du Bois Powerhouse Rebuild | 1 852.2 | - | - | - | - | - | - | 0.6 | 2.6 | 19.1 | 45.3 | 67.6 |
| Gillam Redevelopment and Expansion Program (GREP) | 266.5 | 24.4 | 26.3 | 4.2 | - | - | - | - | - | - | - | 266.5 |
| Bipole III - Transmission Line | 1 655.4 | - | - | - | - | - | - | - | - | - | - | 1 514.0 |
| Bipole III - Converter Stations | 2 675.1 | - | - | - | - | - | - | - | - | - | - | 2 366.3 |
| Bipole III - Collector Lines | 260.2 | - | - | - | - | - | - | - | - | - | - | 227.0 |
| Bipole III - Community Development Initiative | 62.0 | - | - | - | - | - | - | - | - | - | - | 8.1 |
| Riel 230/500kV Station | 329.9 | - | - | - | - | - | - | - | - | - | - | 42.0 |
| Manitoba-Minnesota Transmission Project | 350.3 | - | - | - | - | - | - | - | - | - | - | 348.0 |
| Demand Side Management | NA | 47.5 | 48.3 | 47.2 | 47.2 | 48.3 | 50.2 | 52.2 | 54.4 | 56.6 | 58.9 | 1 186.9 |
| Generating Station Improvements & Upgrades | NA | 35.7 | 36.4 | 45.0 | 32.2 | 21.1 | 9.4 | 14.4 | 15.2 | 25.8 | 79.3 | 453.2 |
| Target Adjustment (Cost Flow) | NA | 0.2 | (0.3) | 1.4 | 1.8 | 1.2 | 1.1 | (0.6) | (0.6) | (3.0) | (6.5) | (19.4) |
| MAJOR NEW GENERATION & TRANSMISSION TOTAL | 107.8 | 110.7 | 110.7 | 97.8 | 81.3 | 70.5 | 60.7 | 66.5 | 71.6 | 98.4 | 175.0 | 12 611.1 |

Manitoba Hydro
Consolidated Capital Expenditure Forecast (CEF14)
 For the Years 2014/15 – 2033/34

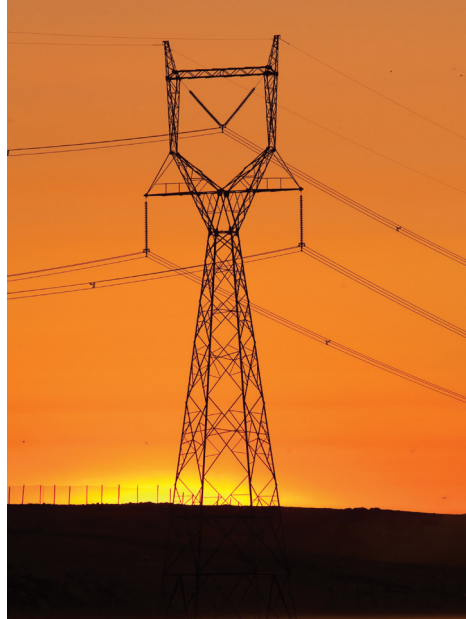
CAPITAL EXPENDITURE FORECAST (CEF14)
 (in millions of dollars)

| | Total Project Cost | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 20 Year Total |
|---|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|
| Major & Base Capital | | | | | | | | | | | | |
| Electric | | | | | | | | | | | | |
| Generation Operations | | | | | | | | | | | | |
| Pine Falls Units 1-4 Major Overhauls | 142.2 | - | - | - | - | - | 45.4 | - | - | - | - | 118.8 |
| Jenpeg Overhaul Program | 115.9 | 2.9 | 21.5 | 21.8 | 23.3 | 1.2 | - | (3.4) | 0.6 | - | - | 115.9 |
| Slave Falls Major Overhauls | 126.1 | 20.1 | 21.3 | 20.9 | 0.9 | - | - | - | - | - | - | 126.1 |
| Pointe du Bois GS Rehabilitation | 182.9 | - | - | - | - | - | - | - | - | - | - | 182.9 |
| Great Falls Unit 4 Overhaul | 53.6 | - | - | - | - | - | - | - | - | - | - | 53.6 |
| Brandon Units 6 & 7 "C" Overhaul Program | 50.4 | - | - | - | - | - | - | - | - | - | - | 50.4 |
| Base Capital | NA | 119.9 | 103.0 | 105.0 | 127.5 | 153.4 | 112.3 | 164.3 | 163.5 | 167.4 | 170.8 | 2,200.6 |
| Total | NA | 142.9 | 145.7 | 148.7 | 151.6 | 154.7 | 157.8 | 160.9 | 164.1 | 167.4 | 170.8 | 2,900.6 |
| Transmission | | | | | | | | | | | | |
| Rockwood East 230/115KV Station | 53.3 | - | - | - | - | - | - | - | - | - | - | 53.3 |
| Lake Winnipeg East System Improvements | 64.6 | - | - | - | - | - | - | - | - | - | - | 64.6 |
| Letellier - St. Vital 230KV Transmission | 59.0 | - | - | - | - | - | - | - | - | - | - | 59.0 |
| Transmission Line Upgrades for NERC Alert | 151.3 | - | - | - | - | - | - | - | - | - | - | 151.3 |
| HVDC Dorsey Synchronous Condenser Refurbishment | 73.3 | - | - | - | - | - | - | - | - | - | - | 73.3 |
| Dorsey 230KV Phase II Zone Building | NA | - | - | - | - | - | - | - | - | - | - | - |
| Bipole 2 Thyristor Valve Replacement | 233.7 | - | - | - | - | - | - | - | - | - | - | 233.7 |
| Base Capital | NA | 153.0 | 156.1 | 159.2 | 162.4 | 165.6 | 168.9 | 172.3 | 175.7 | 179.3 | 182.8 | 2,452.3 |
| Total | NA | 153.0 | 156.1 | 159.2 | 162.4 | 165.6 | 168.9 | 172.3 | 175.7 | 179.3 | 182.8 | 3,025.3 |

Manitoba Hydro
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 For the Years 2014/15 – 2033/34

CAPITAL EXPENDITURE FORECAST (CEF14)
 (in millions of dollars)

| | Total Project Cost | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 20 Year Total |
|---|--------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-----------------|
| Customer Service & Distribution | | | | | | | | | | | | |
| New Madison Station - 115/24kV Station | 87.1 | - | - | - | - | - | - | - | - | - | - | 79.0 |
| St. Vital Station - 115/24kV Station | 51.3 | - | - | - | - | - | - | - | - | - | - | 51.2 |
| Dawson Road Station - 115/24kV Station | 51.8 | - | - | - | - | - | - | - | - | - | - | 51.8 |
| Burrows New 66/12kV Station | 54.7 | - | - | - | - | - | - | - | - | - | - | 2.4 |
| New Adelaide Station - 66/12kV | 62.1 | - | - | - | - | - | - | - | - | - | - | 62.0 |
| Base Capital | 261.6 | 257.8 | 257.8 | 263.3 | 267.2 | 285.6 | 268.1 | 298.7 | 297.6 | 302.6 | 305.3 | 4 773.2 |
| Total | NA | 261.6 | 257.8 | 263.3 | 267.2 | 285.6 | 268.1 | 298.7 | 297.6 | 302.6 | 305.3 | 5 019.6 |
| Customer Care & Energy Conservation | NA | 3.8 | 3.9 | 4.0 | 4.1 | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 81.0 |
| Human Resources & Corporate Services | NA | 59.5 | 60.7 | 61.9 | 63.2 | 64.4 | 65.7 | 67.0 | 68.4 | 69.8 | 71.1 | 1 248.6 |
| Finance & Regulatory | NA | 0.2 | 0.2 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 4.9 |
| | 621.1 | 624.5 | 637.3 | 648.6 | 674.7 | 703.5 | 710.5 | 723.8 | 734.9 | 734.9 | 734.9 | 12 279.9 |
| Gas | | | | | | | | | | | | |
| Customer Service & Distribution | NA | 33.7 | 33.5 | 34.0 | 34.7 | 36.6 | 34.1 | 38.2 | 39.3 | 40.2 | 41.0 | 664.1 |
| Customer Care & Energy Conservation | NA | 5.4 | 5.5 | 5.6 | 5.7 | 5.8 | 5.9 | 6.0 | 6.2 | 6.3 | 6.4 | 106.8 |
| Gas Demand Side Management | NA | 9.6 | 9.8 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 10.0 | 165.9 |
| | 48.7 | 48.7 | 49.6 | 49.6 | 46.1 | 48.1 | 45.8 | 50.1 | 51.4 | 52.4 | 53.5 | 936.8 |
| Major & Base Capital Target Adjustment | NA | - | - | - | - | - | - | - | - | - | - | 125.0 |
| MAJOR & BASE CAPITAL TOTAL | 669.8 | 673.2 | 686.9 | 694.7 | 722.8 | 753.6 | 710.8 | 753.6 | 761.9 | 776.3 | 788.4 | 13 341.7 |
| CONSOLIDATED CEF14 TOTAL | 777.6 | 783.9 | 784.7 | 776.0 | 793.3 | 820.1 | 771.5 | 820.1 | 833.5 | 874.7 | 963.4 | 25 952.9 |
| ELECTRIC CAPITAL TOTAL | 728.9 | 735.1 | 735.1 | 729.9 | 745.3 | 770.0 | 725.7 | 770.0 | 782.2 | 822.2 | 910.0 | 25 016.1 |
| GAS CAPITAL TOTAL | 48.7 | 48.7 | 49.6 | 46.1 | 48.1 | 50.1 | 45.8 | 50.1 | 51.4 | 52.4 | 53.5 | 936.8 |



Section 2

Project Summaries

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ELECTRIC OPERATIONS:

MAJOR NEW GENERATION & TRANSMISSION:

Wuskwatim - Generation

Description:

Design and build the new Wuskwatim generating station with three generators and installed capacity of approximately 200MW on the Burntwood River upstream of Thompson.

Justification:

This project increases generation for both export power purposes and domestic load requirements.

In-Service Date:

First power June 2012

Revision:

Cost flow revision only.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|------------|---------|---------|---------|------|------|---------|
| Previously Approved | \$ 1 448.6 | \$ 23.8 | \$ 12.1 | \$ - | \$ - | \$ - | \$ - |
| Increase (Decrease) | - | 16.7 | 0.8 | 14.7 | - | - | - |
| Revised Forecast | \$ 1 448.6 | \$ 40.5 | \$ 12.9 | \$ 14.7 | \$ - | \$ - | \$ - |

Keeyask - Generation

Description:

Design and build the Keeyask generating station with seven generators and nominal capacity of 695MW on the Nelson River downstream of the Kelsey generating station. Project costs also include activities necessary to obtain approval and community support to proceed with the construction of the future generating station. These costs are comprised of extensive First Nations and other community consultations, pre-project training, joint venture business developments, environmental studies, impact statement preparations, submissions, regulatory review processes, detailed pre-engineering requirements, acquiring all necessary licensing, the design and construction of associated transmission facilities, and improvements to access roadways.

Justification:

This project increases generation for export power purposes and ultimately domestic load requirements.

In-Service Date:

First power November 2019

Revision:

The Keeyask Project control budget was updated in March 2014 as part of the NFAT review of the preferred development plan. The last detailed project estimate was completed in 2009. The control budget includes bid prices from the major contractors including the General Civil Contract, current budget of the Keeyask Infrastructure Project and cost flow revisions.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|------------|----------|----------|----------|------------|----------|------------|
| Previously Approved | \$ 6 220.1 | \$ 471.0 | \$ 639.3 | \$ 865.1 | \$ 1 111.4 | \$ 942.3 | \$ 1 201.1 |
| Increase (Decrease) | 276.0 | 305.3 | 37.1 | 97.1 | 239.9 | (14.4) | (316.3) |
| Revised Forecast | \$ 6 496.1 | \$ 776.3 | \$ 676.3 | \$ 962.2 | \$ 1 351.3 | \$ 927.9 | \$ 884.8 |

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Grand Rapids Hatchery Upgrade and Expansion

Description:

Expand the capacity of the existing facility through tank replacement/reconfiguration and upgrade of supporting water treatment infrastructure. Modifications to the Research Centre (a separate facility on the GRH site), including well and potable water supply, to serve as a temporary production facility during hatchery upgrade and expansion, and the purchase of portable satellite facilities to allow for fish rearing during hatchery construction. Install electrical service from Grand Rapids Generating Station service to the hatchery.

Justification:

Upgrades to the Grand Rapids hatchery are a requirement of the Keeyask Environment Act licence as well as recently introduced national and provincial regulatory requirements for water quality and biosecurity.

In-Service Date:

March 2018

Revision:

New item.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|--------|--------|--------|--------|------|---------|
| Previously Approved | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Increase (Decrease) | 23.5 | 1.9 | 4.7 | 9.3 | 6.8 | - | - |
| Revised Forecast | \$ 23.5 | \$ 1.9 | \$ 4.7 | \$ 9.3 | \$ 6.8 | \$ - | \$ - |

Conawapa - Generation

Description:

Design and build the Conawapa generating station with ten generators and nominal capacity of 1 485MW on the Nelson River downstream of the Limestone generating station. Project costs also include activities associated with extensive First Nations and other community consultations, pre-project training, environmental studies, impact statement preparations, submissions, regulatory review processes, acquiring all necessary licensing, improvements to access roadways, and detailed pre-engineering required to obtain a license and all necessary approvals to construct the Conawapa generating station.

Justification:

This project increases generation for export power purposes and ultimately domestic load requirements.

In-Service Date:

Under review pending re-evaluation of the business case.

Revision:

Majority of expenditures have been suspended pending re-evaluation of the business case. Remaining expenditures are for the wrap up of preliminary engineering studies and limited environmental and aboriginal studies including capitalized interest on construction in process through August 2016.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|-------------|---------|----------|---------|----------|----------|------------|
| Previously Approved | \$ 10 491.5 | \$ 70.1 | \$ 125.9 | \$ 99.4 | \$ 240.6 | \$ 308.1 | \$ 9 317.0 |
| Increase (Decrease) | (10 094.5) | (26.7) | (94.5) | (78.4) | (240.6) | (308.1) | (9 317.0) |
| Revised Forecast | \$ 397.0 | \$ 43.4 | \$ 31.4 | \$ 21.0 | \$ - | \$ - | \$ - |

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Kelsey Improvements & Upgrades

Description:

Overhaul and uprate all seven Kelsey generating station units including the replacement of turbine runners, bottom rings, discharge rings or weld overlays, transformers, generator windings and exciters. Perform model testing to refine runner design, perform extensive intake gate rehabilitation, perform draft tube modifications, perform an 8 000 hour inspection, and upgrade rail spur and overhead crane. Upgrade transmission facilities necessary to integrate the additional Kelsey generation into the Manitoba Hydro system network.

Justification:

Rerunning presents the best economic solution for increasing efficiency at the Kelsey generating station and for adding system capacity without flooding or requiring a new water power license. Overhauling the units will improve the unit output by up to 11MW per unit. The transmission upgrade of a portion of the Kelsey 138 and 230kV buses and the revisions to the Northern AC Cross Trip scheme are required to accommodate the 77MW of additional Kelsey output.

In-Service Date:

October 2016

Revision:

In July 2013, the overhauls on all seven units had been completed and placed back in-service. Significant work remains to fix deficiencies on the head covers of all the units to improve safety and reliability. Wastewater treatment upgrades, required to accommodate the increased workforce during the overhauls, was higher than anticipated due the original design not meeting environmental limits. Final In-service date deferred 26 months from August 2014.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|----------|---------|--------|---------|--------|------|---------|
| Previously Approved | \$ 301.7 | \$ 2.2 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Increase (Decrease) | 39.0 | 11.9 | 9.1 | 12.9 | 1.3 | - | - |
| Revised Forecast | \$ 340.4 | \$ 14.1 | \$ 9.1 | \$ 12.9 | \$ 1.3 | \$ - | \$ - |

Kettle Improvements & Upgrades

Description:

Rewind stator for units 5-12 and install a new stator frame, core and winding for units 1-4. Perform rotor refurbishment, thrust runner replacement, new excitation transformers, rebabbiting of bearings, excitation upgrade replacements, control and protection system replacements, mechanical systems replacements, and intake gate and wicket gate work for units 1-4.

Justification:

The stator windings at Kettle are polyester bonded mica which is prone to internal degradation as a result of thermal and electrical stresses. There has been a much higher failure rate for stator coils at Kettle than in any of our other generators installed since 1960. Analysis of the internal conditions of the insulation system is ongoing. Re-wedging units at Kettle is an opportunity to repair isolated cases of severe slot discharge, necessary to avoid deterioration. Unit 4 requires repairs due to an incident that occurred in August 2006, where a top clamping finger on the unit broke off and fell into the air gap causing extensive damage to the windings and core.

In-Service Date:

March 2026

Revision:

To reflect final costs for Unit 4, including scope increase for thrust runner replacement, new excitation transformer, re-babbiting of bearings and removal and disposal of the old stator for units 1-4.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|----------|--------|---------|---------|---------|---------|---------|
| Previously Approved | \$ 165.7 | \$ 7.7 | \$ 23.7 | \$ 17.3 | \$ 1.0 | \$ 31.7 | \$ 29.5 |
| Increase (Decrease) | 25.9 | (1.1) | (0.2) | 7.3 | 21.0 | - | (0.0) |
| Revised Forecast | \$ 191.6 | \$ 6.6 | \$ 23.5 | \$ 24.6 | \$ 22.0 | \$ 31.7 | \$ 29.5 |

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Pointe du Bois Spillway Replacement

Description:

Design and build a new spillway and new concrete and earth fill dams to replace the existing spillway structures. Includes engineering and environmental studies, community consultation, obtaining regulatory approval, and de-commissioning the existing spillway.

Justification:

Pointe du Bois does not currently meet dam safety guidelines with respect to spillway capacity. A new spillway is required to meet these guidelines.

In-Service Date:

October 2015

Revision:

Deferred spillway in-service due to a late start to concrete placement, lower than planned productivity pushing concrete work into winter months and increased gate installation time. In addition to the delay in the spillway in-service, dam placement activities were suspended due to the late spring melt and higher than average precipitation flows on the Winnipeg River. As a result, final in-service date deferred one year from October 2014.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|----------|----------|---------|--------|------|------|---------|
| Previously Approved | \$ 559.6 | \$ 125.3 | \$ 5.5 | \$ - | \$ - | \$ - | \$ - |
| Increase (Decrease) | 15.0 | (11.2) | 46.1 | 3.8 | - | - | - |
| Revised Forecast | \$ 574.8 | \$ 114.1 | \$ 51.6 | \$ 3.8 | \$ - | \$ - | \$ - |

Pointe du Bois - Transmission

Description:

Redevelop Stafford Terminal station (formerly Scotland station), replace Bank 7 at Pointe du Bois switchyard station, salvage 66kV P lines between Pointe du Bois and Rover stations, install a 115kV transmission line between Pointe du Bois and Whiteshell stations, add Bank 8 to Pointe du Bois switchyard, install a 66kV line between Ridgeway and Rover stations, and upgrade protection at Slave Falls switchyard station.

Justification:

The 66kV lines P1, P2, P3, and P4 between Pointe du Bois and Rover stations have exceeded their expected serviceable life and pose threats to public and employee safety. The reliability of the transmission system in the Winnipeg Central area has been degraded due to the poor physical condition of these lines. In order to successfully operate the power system and continuously deliver high quality power to our customers and protect the public, the P Lines should be removed. The rebuild of Stafford station is required to address due diligence concerns, including Manitoba Hydro grounding and switching standards and public safety, and to increase Winnipeg Central capacity. This work involves converting the 138kV system to 115kV, so work at Pointe du Bois is also required.

In-Service Date:

December 2017

Revision:

Cost flow revision only.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|----------|---------|---------|---------|--------|------|---------|
| Previously Approved | \$ 114.3 | \$ 8.6 | \$ 12.3 | \$ 21.9 | \$ 7.4 | \$ - | \$ - |
| Increase (Decrease) | - | 7.2 | 4.8 | (8.2) | (3.1) | - | - |
| Revised Forecast | \$ 114.3 | \$ 15.8 | \$ 17.1 | \$ 13.8 | \$ 4.3 | \$ - | \$ - |

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Gillam Redevelopment and Expansion Program (GREP)

Description:

Redevelop and expand the Town of Gillam infrastructure in Phases 1B, 2 and 3. Phases 2 & 3 will require further definition based on conceptual design and the requirement of Manitoba Hydro’s construction of new facilities in the North.

Justification:

Redevelopment of the Town of Gillam is required to address existing operational needs and to prepare for the growth associated with new generation facilities. The GREP will improve the overall quality of infrastructure in Gillam, which will positively affect attraction and retention for existing and new generation facilities. The GREP supports Corporate initiatives to develop the hydroelectric potential of the Lower Nelson River.

In-Service Date:

March 2027

Revision:

A re-evaluation of the project resulted in cost reductions due to optimization of the project through a redesign of the town centre, residential site development, trailer park and industrial park as well as a re-analysis of customer requirements resulting in a reduction in scope of work.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|----------------------------|----------|---------|---------|---------|---------|---------|----------|
| Previously Approved | \$ 366.5 | \$ 27.0 | \$ 30.2 | \$ 30.5 | \$ 29.5 | \$ 27.9 | \$ 221.3 |
| Increase (Decrease) | (100.0) | (7.0) | (7.8) | (7.8) | (7.8) | (7.7) | (62.0) |
| Revised Forecast | \$ 266.5 | \$ 20.0 | \$ 22.4 | \$ 22.8 | \$ 21.8 | \$ 20.2 | \$ 159.3 |

Bipole III - Transmission Line

Description:

Design and build a +/- 500kV HVdc transmission line of approximately 1 341km (west of Lakes Winnipegosis & Manitoba) from Riel Converter Station to Keewatinohk Converter Station. Conduct environmental impact assessment, acquire property, and obtain licensing necessary for a +/- 500kV DC transmission line and converter stations at Riel and Keewatinohk.

Justification:

Provides increased reliability to the Manitoba Hydro system due to the critical risk to the Province and the Corporation of not mitigating an Interlake (Bipole 1 and 2) corridor outage or a Dorsey station common mode outage. In normal steady state operation, it will also provide an increase in southern power, due to decreased line losses (approximately 76MW under full existing generation). The rating for Bipole III was increased from 2000MW to 2300MW to ensure adequate spare HVdc transmission on the northern collector system. The increased rating ensures future generation can be transmitted via Bipole I, Bipole II and Bipole III in the event of a single valve group outage.

In-Service Date:

July 2018

Revision:

The revised estimate incorporates a more detailed scope based on an issued environment act licence, approved finalized route and right-of-way width, as well as up-to-date market information. The project licence and permits were received later than planned, resulting in 1.5 lost winter seasons of 5 total planned. The estimate is based on the need for at least 4 more winter seasons to construct the transmission line. Project in-service date deferred nine months from October 2017.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|----------------------------|------------|----------|----------|----------|----------|---------|---------|
| Previously Approved | \$ 1 259.9 | \$ 265.9 | \$ 381.9 | \$ 263.7 | \$ 195.2 | \$ - | \$ - |
| Increase (Decrease) | 395.5 | (62.4) | (21.5) | 117.3 | 298.6 | 75.3 | - |
| Revised Forecast | \$ 1 655.4 | \$ 203.5 | \$ 360.5 | \$ 381.0 | \$ 493.8 | \$ 75.3 | \$ - |

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Bipole III - Converter Stations

Description:

Design and build an HVdc converter station with a rating of 2300MW at the proposed Keewatinohk (Keewatinooow) site, including property acquisition costs and the Keewatinohk 230kV AC switch yard. Design and build an HVdc converter station with 2300MW of converters at Riel, including four LCC HVdc synchronous condensers, property acquisition costs and expansion of the Riel 230kV AC switch yard.

Justification:

Provides increased reliability to the Manitoba Hydro system due to the critical risk to the Province and the Corporation of not mitigating an Interlake (Bipole I and II) corridor outage or a Dorsey station common mode outage. The rating for Bipole III was increased from 2000MW to 2300MW to ensure adequate spare HVdc transmission on the northern collector system. The increased rating ensures future generation can be transmitted via Bipole I, Bipole II and Bipole III in the event of a single valve group outage.

In-Service Date:

July 2018

Revision:

The selection of LCC technology has resulted in synchronous condensers being included in the revised estimate. Additionally, the awarded contract prices for the Keewatinohk Camp, Keewatinohk Site Development and the Keewatinohk 230kV AC Switchyard have been incorporated into the revised estimate. The rating for Bipole III was increased from 2000MW to 2300MW to ensure adequate spare HVdc transmission on the northern collector system. Project in-service date deferred nine months from October 2017.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|------------|----------|----------|----------|----------|----------|---------|
| Previously Approved | \$ 1 828.5 | \$ 262.6 | \$ 493.2 | \$ 410.2 | \$ 181.5 | \$ 127.4 | \$ - |
| Increase (Decrease) | 846.6 | (41.6) | 87.6 | 418.5 | 326.1 | 67.7 | 23.0 |
| Revised Forecast | \$ 2 675.1 | \$ 221.1 | \$ 580.8 | \$ 828.7 | \$ 507.7 | \$ 195.1 | \$ 23.0 |

Bipole III - Collector Lines

Description:

Design and construct three permanent and two temporary 230kV collector lines for the Keewatinohk Converter Station. Construct power substation for the Keewatinohk Converter Station, 138 kV line, microwave tower, and distribution feeders for the Keewatinohk Converter Station. Design and construct the Riel and Keewatinohk electrode lines, sectionalize the 230kV transmission line R49R at Riel. Includes the property acquisition and/or easements for the collector lines and the electrode lines. Design and construct a new bay and modify existing Long Spruce 230 KY AC switchyard for the new collector line to Keewatinohk Converter Station. Design and construction of a new bay and modifications at existing Henday 230 KY AC switchyard for the four new collector lines to Keewatinohk Converter Station. Design and construction of breaker replacements at existing stations (Ridgeway, Rosser, and McPhillips) for Bipole III.

Justification:

Provides increased reliability to the Manitoba Hydro system due to the critical risk to the Province and the Corporation of not mitigating an Interlake (Bipole 1 and 2) corridor outage or a Dorsey station common mode outage.

In-Service Date:

July 2018

Revision:

The revised estimate incorporates a more detailed scope including double circuit for one collector line, increased reliability design for electrode lines, updated assumptions for direct negotiated clearing and construction contracts based on an issued environment act licence and increased scope for Long Spruce and Henday switchyard additions and breaker replacements at existing stations. Project in-service date deferred nine months from October 2017.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|----------|---------|---------|---------|---------|--------|---------|
| Previously Approved | \$ 191.4 | \$ 63.5 | \$ 46.2 | \$ 37.7 | \$ 8.5 | \$ - | \$ - |
| Increase (Decrease) | 69.0 | (5.0) | 29.4 | 14.0 | 28.2 | 4.7 | - |
| Revised Forecast | \$ 260.2 | \$ 58.4 | \$ 75.5 | \$ 51.7 | \$ 36.7 | \$ 4.7 | \$ - |

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Bipole III - Community Development Initiative

Description:

Establishment of an obligation for a Community Development Initiative to provide benefits to First Nations, Community Councils, rural Municipalities and incorporated Towns and Villages within the vicinity of the Bipole III Project.

Justification:

Manitoba Hydro is responding to community feedback seeking longer term benefits for communities in proximity to high voltage transmission facilities. These funds will be available for community development projects that benefit a broad segment of eligible communities.

In-Service Date:

July 2018

Revision:

Net Present Value calculation increased due to the nine month in-service deferral from October 2017.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|--------|--------|--------|--------|--------|---------|
| Previously Approved | \$ 60.8 | \$ 2.2 | \$ 2.0 | \$ 1.8 | \$ 0.9 | \$ - | \$ - |
| Increase (Decrease) | 1.2 | 0.1 | (0.0) | 0.0 | 0.7 | 0.5 | - |
| Revised Forecast | \$ 62.0 | \$ 2.3 | \$ 2.0 | \$ 1.8 | \$ 1.6 | \$ 0.5 | \$ - |

Riel 230/500kV Station

Description:

Conduct environmental impact assessment and obtain licensing necessary for the Riel 230/500kV station. Design and construct a 230/500kV station at the Riel site including the installation of a 230kV bus with a maximum of five Bays, the installation of a 500kV ring bus, the installation of a 230/500kV 1200MVA transformer bank using two 230kV and one 500kV breaker, and the installation of 500kV line reactors with relocating of a reactor phase from Dorsey. Install a second reactor phase from Dorsey as a spare at Riel after the Riel reactors are in-service and salvage the third reactor phase at Dorsey. Sectionalize two 230kV transmission lines R32V and R33V into Riel station using eight 230kV breakers and associated equipment resulting in two Riel-Ridgeway and two Riel-St. Vital transmission lines. Sectionalize 500kV transmission line D602F into Riel station using two 500kV breakers and associated equipment resulting in Dorsey-Riel and Riel-Forbes 500kV circuits.

Justification:

The sectionalization of the 500kV line allows power to be imported during a catastrophic Dorsey outage, as well as an alternate path for power export during a Dorsey transformer outage.

In-Service Date:

October 2014

Revision:

Cost flow revision only.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|----------|---------|--------|------|------|------|---------|
| Previously Approved | \$ 329.9 | \$ 40.8 | \$ 0.7 | \$ - | \$ - | \$ - | \$ - |
| Increase (Decrease) | - | (4.4) | 4.9 | - | - | - | - |
| Revised Forecast | \$ 329.9 | \$ 36.4 | \$ 5.6 | \$ - | \$ - | \$ - | \$ - |

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Demand Side Management

Description:

Design, implement and deliver incentive based PowerSmart conservation programs to reduce electricity consumption in Manitoba.

Justification:

The electric Demand Side Management plan is cost effective as a resource option and is included in Manitoba Hydro's Power Resource Plan (PRP). The DSM plan provides customers with exceptional value through the implementation of cost-effective energy conservation programs that are designed to minimize the total cost of energy services to customers, position the Corporation as a national leader in implementing cost-effective energy conservation and alternative energy programs, protect the environment and promote sustainable energy supply and service.

In-Service Date:

Ongoing.

Revision:

Revisions to energy saving and expenditures for a number of programs to reflect current market information and designed to aggressively pursue cost-effective market-achievable savings. It is assumed that upon adoption of IFRS in 2015/16, the demand side management programs will continue to be capitalized, under the interim standard that continues to permit rate-regulated accounting.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|----------------------------|-------|---------|---------|---------|---------|---------|----------|
| Previously Approved | NA | \$ 25.3 | \$ 24.6 | \$ 23.9 | \$ 22.6 | \$ 21.7 | \$ 266.9 |
| Increase (Decrease) | | 26.5 | 34.6 | 52.7 | 61.3 | 72.0 | 555.0 |
| Revised Forecast | NA | \$ 51.8 | \$ 59.2 | \$ 76.6 | \$ 83.9 | \$ 93.7 | \$ 821.9 |

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Pointe du Bois GS Rehabilitation

Description:

Implement safety upgrades for the Pointe du Bois generating station including fire protection, mechanical hazards, electrical hazards, operational hazards, trips and fall hazards, and various other safety upgrades. Additionally, implement turbine and generator, equipment and civil rehabilitation and upgrades.

Justification:

To provide a high level of health and safety upgrades as well as improved reliability and control, along with a reduction in potential environmental impacts from catastrophic events such as fire or flooding. The plan provides the most economical solution to operate the generating station for an additional twenty years.

In-Service Date:

March 2021

Revision:

Cost flow revision and advanced in-service date five years and four months from July 2026.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|----------|---------|---------|---------|---------|---------|---------|
| Previously Approved | \$ 182.9 | \$ 10.3 | \$ 15.3 | \$ 21.7 | \$ 19.5 | \$ 20.4 | \$ 81.5 |
| Increase (Decrease) | - | (0.2) | 0.1 | 25.3 | 30.5 | 4.8 | (60.5) |
| Revised Forecast | \$ 182.9 | \$ 10.1 | \$ 15.4 | \$ 47.0 | \$ 50.0 | \$ 25.2 | \$ 21.0 |

Great Falls Unit 4 Overhaul

Description:

Major overhaul to generating Unit 4 including generator rewind, turbine re-runnering, new water passage embedded components, one 3-phase unit transformer, and modernization of components.

Justification:

The re-runnering and major overhaul will provide an opportunity to upgrade/modernize the unit while taking advantage of an already planned outage for the intake gates. The re-runnering will add both capacity and efficiency. The existing transformer is in poor condition and water passage components are starting to fail. The overhaul will increase reliability and extend the asset life by 40 to 50 years.

In-Service Date:

August 2015.

Revision:

Cost flow revision only.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|---------|---------|------|------|------|---------|
| Previously Approved | \$ 53.6 | \$ 16.5 | \$ 11.9 | \$ - | \$ - | \$ - | \$ - |
| Increase (Decrease) | - | (0.8) | 2.3 | - | - | - | - |
| Revised Forecast | \$ 53.6 | \$ 15.8 | \$ 14.2 | \$ - | \$ - | \$ - | \$ - |

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TRANSMISSION:

Rockwood East 230/115kV Station

Description:

Design and construct a new 230/115kV Rockwood East Station adjacent to 230kV circuits A3R (Ashern-Rosser) and S65R (Silver-Rosser) including associated equipment, protection, control and communication systems. Sectionalize and extend 230kV and 115kV transmission lines as required and provide communication and protection upgrades.

Justification:

Construction of the Rockwood East Station with three 115kV line terminations would alleviate the overload scenarios for Rosser 230/115kV Banks 2 and 4 and for 115kV circuits CR4 or CR2 between Rosser and Parkdale Stations. It would also increase the 115kV capacity in the Rosser/Parkdale/Selkirk area. The existing Parkdale 115/66kV Station switchyard has very limited opportunity for adding new capacity due to the station's poor condition and limited space.

In-Service Date:

November 2015.

Revision:

Cost flow revision only.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|---------|---------|------|------|------|---------|
| Previously Approved | \$ 53.3 | \$ 29.1 | \$ 8.6 | \$ - | \$ - | \$ - | \$ - |
| Increase (Decrease) | - | (2.5) | 2.5 | - | - | - | - |
| Revised Forecast | \$ 53.3 | \$ 26.6 | \$ 11.1 | \$ - | \$ - | \$ - | \$ - |

Lake Winnipeg East System Improvements

Description:

Build a new 115/66kV Manigotagan Corner Station complete with two 60MVA transformers, a new 65km, 115kV transmission line from Pine Falls Station to Manigotagan Corner Station and the associated terminations and communications.

Justification:

Pine Falls Station currently operates over firm transformation during winter peak. The absence of firm transformation would cause customer outages in the Lake Winnipeg East area during a Pine Falls transformer outage. The outage would last greater than a week until a spare transformer could be brought in from Winnipeg and connected. A transformer outage would affect more than 1,300 permanent customers and more than 13,000 seasonal (summer) customers. Deferral will place customers at risk of no supply. The new 115/66kV Manigotagan Corner Station and Pine Falls – Manigotagan Corner 115kV Transmission Line will provide firm capacity for area load for the next 20 years, as well as enable the Bloodvein SVC to control effectively the voltage at Bloodvein, Little Grand Rapids, Beren's River and Poplar River for the next 20 years. It also reduces the loading on Pine Falls 115/66kV Station, thereby accommodating load growth in the Victoria Beach, Grand Beach and Bissett areas.

In-Service Date:

October 2016

Revision:

Cost flow revision and in-service date deferred eleven months from November 2015.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|---------|---------|--------|------|------|---------|
| Previously Approved | \$ 64.6 | \$ 30.0 | \$ 17.2 | \$ 0.0 | \$ - | \$ - | \$ - |
| Increase (Decrease) | - | (15.7) | 18.6 | 8.2 | - | - | - |
| Revised Forecast | \$ 64.6 | \$ 14.2 | \$ 35.8 | \$ 8.2 | \$ - | \$ - | \$ - |

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Letellier - St. Vital 230kV Transmission

Description:

Design and construct a new 230kV line from Letellier Station to St. Vital Station including associated terminations and communications. Includes environmental licensing and monitoring, and property rights acquisition.

Justification:

The supply to Letellier Station must be improved in order to overcome the contingency loading and low voltage problems in the south central area of Manitoba caused by load growth, as well as to maintain export levels on the 230kV Tie Line L20D (Letellier to Drayton) at these increased loads.

In-Service Date:

July 2017

Revision:

Cost flow revision and an eleven month deferral from August 2016.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|--------|---------|---------|---------|--------|---------|
| Previously Approved | \$ 59.0 | \$ 3.0 | \$ 34.9 | \$ 18.1 | \$ 1.6 | \$ - | \$ - |
| Increase (Decrease) | - | (1.7) | (31.2) | 18.9 | 12.3 | 1.6 | - |
| Revised Forecast | \$ 59.0 | \$ 1.3 | \$ 3.7 | \$ 37.0 | \$ 13.9 | \$ 1.6 | \$ - |

Transmission Line Upgrades for NERC Alert

Description:

This project consists of a nine year program to upgrade over 1000 transmission line spans to meet CSA Standards for line clearance. A priority listing of the transmission lines and spans requiring mitigation will be developed based on assessment work considering operational and safety risks specific to each line/span.

Justification:

This program addresses discrepancies between the design ratings and actual field ratings of transmission lines thereby ensuring continued reliability and operation of the electrical system as well as mitigating risks to public safety due to insufficient line clearance.

In-Service Date:

March 2023.

Revision:

Cost flow revision only.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|----------|--------|--------|--------|--------|---------|----------|
| Previously Approved | \$ 151.3 | \$ 1.1 | \$ 8.9 | \$ 9.0 | \$ 9.1 | \$ 23.7 | \$ 99.5 |
| Increase (Decrease) | - | (0.1) | (0.2) | (0.2) | (0.2) | (0.4) | 1.1 |
| Revised Forecast | \$ 151.3 | \$ 1.0 | \$ 8.6 | \$ 8.8 | \$ 8.9 | \$ 23.3 | \$ 100.6 |

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HVDC Dorsey Synchronous Condenser Refurbishment

Description:

For all nine (9) Synchronous Condensers at Dorsey, project includes major mechanical refurbishment consisting of re-wedging the stator, refurbishment of bearings, rotor, and poles, and replacement of protection and control cubicles, Motor Control Center (MCC), excitation system and cables. Other work includes replacing the H2/CO2 ventilation and detection systems (except SC9Y), vibration monitoring, pony motor brushgear, and liquid mixing valves.

Justification:

Synchronous condensers are required for proper operation of the HVDC system, voltage regulation of the southern AC system and to provide reactive power for power export to the United States. A major inspection and overhaul of each machine is necessary to prevent catastrophic failure, involving the rotors and rotor bolts as indicated by the failures of SC12Y in 1987 and SC11Y in 1988. The cost of repairing a failure when combined with the inability to export power will well exceed the cost of major inspection and overhaul.

In-Service Date:

October 2021.

Revision:

Cost flow revision and in-service date deferred two years from October 2019.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|--------|--------|--------|--------|--------|---------|
| Previously Approved | \$ 73.3 | \$ 7.9 | \$ 8.9 | \$ 8.5 | \$ 5.9 | \$ 3.4 | \$ 0.8 |
| Increase (Decrease) | - | 0.8 | (0.4) | (5.8) | (0.7) | (1.2) | 6.6 |
| Revised Forecast | \$ 73.3 | \$ 8.7 | \$ 8.5 | \$ 2.7 | \$ 5.2 | \$ 2.2 | \$ 7.3 |

Dorsey 230kV Phase II Zone Building

Description:

Construction and equipping of two new zone buildings and refurbishing of the existing relay building and equipment. This project also includes installing and replacing various pieces of equipment and modifications to the switchyard.

Justification:

Construction of two new hardened relay buildings plus the hardening and conversion of the existing relay building is the most cost effective and practical option. This approach segregates the 230kV switchyard into three sections, providing for the majority of the 230kV switchyard to remain operational following the loss of a zone building. This meets Manitoba Hydro's system restoration criteria.

In-Service Date:

Cancelled

Revision:

Item cancelled. The Phase I improvements to Dorsey's 230kV Relay Building have significantly reduced the risk of catastrophic failure caused by severe weather and/or fire. The building has been fortified to withstand an F3 category tornado and the implemented fire mitigation measures have reduced the probability of a major fire with the Relay Building by greater than 200 times. These enhancements combined with the future addition of Bipole III have reduced the risks sufficiently to eliminate the need for Phase II.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|-------|------|------|--------|---------|---------|---------|
| Previously Approved | NA | \$ - | \$ - | \$ 0.4 | \$ 16.5 | \$ 33.2 | \$ 13.3 |
| Increase (Decrease) | - | - | - | (0.4) | (16.5) | (33.2) | (13.3) |
| Revised Forecast | NA | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |

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Bipole 2 Thyristor Valve Replacement

Description:

Removal of the existing eight (8) thyristor valve groups and their controls, and replace them with eight new de-ionized water cooled HVDC thyristor valve groups and controls.

Justification:

The Bipole 2 thyristor valves and controls are nearing the end of their useful life and require replacement. Replacing the existing thyristor valve groups and controls with new ones will result in reducing the probability of forced outages. This will result in a significant decrease in failures, reduce maintenance requirements, and generally improved reliability for Bipole 2.

In-Service Date:

October 2023

Revision:

Cost flow revision only.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|----------------------------|----------|------|------|------|--------|---------|----------|
| Previously Approved | \$ 233.7 | \$ - | \$ - | \$ - | \$ 2.1 | \$ 13.3 | \$ 218.3 |
| Increase (Decrease) | - | - | - | - | - | (0.1) | 0.1 |
| Revised Forecast | \$ 233.7 | \$ - | \$ - | \$ - | \$ 2.1 | \$ 13.2 | \$ 218.4 |

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CUSTOMER SERVICE & DISTRIBUTION:

New Madison Station - 115/24kV Station

Description:

Build a new 115/24kV St. James Station, new and upgraded feeders, and conversion of St. James, Ness, Berry and King Edward station feeders from 4kV to 24kV. Install 1.5km of new 115kV cable from St. James Station and protection upgrades required at Rosser, Inkster Sherbrook, Mohawk and La Verendrye stations.

Justification:

This project is required to ensure firm supply and a reliable system in the St. James area.

In-Service Date:

March 2017.

Revision:

The installation of 1.5km of 115kV cable from St. James Station to Madison Station is now required because tapping off existing infrastructure in the area is not viable. The contract bid price for the construction of the station and the internal labour to support the contract was higher than previously estimated. The protection upgrades at other stations was not included in previous estimates. The multi in-service date is deferred by twelve months to March 2017 without changing the Madison Station in-service date of March 2016.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|---------|---------|---------|--------|------|---------|
| Previously Approved | \$ 69.6 | \$ 20.0 | \$ 25.6 | \$ 16.1 | \$ 1.3 | \$ - | \$ - |
| Increase (Decrease) | 17.5 | 12.6 | 8.0 | (3.3) | (1.3) | - | - |
| Revised Forecast | \$ 87.1 | \$ 32.6 | \$ 33.6 | \$ 12.8 | \$ - | \$ - | \$ - |

St. Vital Station - 115/24kV Station

Description:

Install a 3-bank 115/24kV station complete with nine feeder positions and protection to replace the existing 24kV distribution at St. Vital Station.

Justification:

The project addresses the equipment rating concerns currently mitigated by station operating restrictions and customer-driven demand for electricity in the area, as well as restoring reliable station contingency plans.

In-Service Date:

December 2018.

Revision:

None.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|--------|--------|---------|---------|--------|---------|
| Previously Approved | \$ 51.3 | \$ 0.3 | \$ 3.0 | \$ 20.0 | \$ 20.0 | \$ 7.9 | \$ - |
| Increase (Decrease) | - | - | - | - | - | - | - |
| Revised Forecast | \$ 51.3 | \$ 0.3 | \$ 3.0 | \$ 20.0 | \$ 20.0 | \$ 7.9 | \$ - |

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Dawson Road Station - 115/24kV Station

Description:

Install a 2-bank 115kV/24kV station complete with six feeder positions and two capacitor banks to replace existing 24kV distribution equipment at Dawson Road Station.

Justification:

Justification is based on fulfilling customer-driven demand for electricity in the area as well as providing a reliable supply to customers in contingency situations.

In-Service Date:

December 2019.

Revision:

None.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|--------|--------|--------|---------|---------|---------|
| Previously Approved | \$ 51.8 | \$ 2.5 | \$ 0.5 | \$ 3.0 | \$ 16.5 | \$ 20.0 | \$ 9.3 |
| Increase (Decrease) | - | - | - | - | - | - | - |
| Revised Forecast | \$ 51.8 | \$ 2.5 | \$ 0.5 | \$ 3.0 | \$ 16.5 | \$ 20.0 | \$ 9.3 |

Burrows New 66/12kV Station

Description:

Build a new two bank 66kV/12kV indoor station, complete with 12 feeder positions and protection to replace the Alfred and Charles stations.

Justification:

Most of the equipment in this part of Winnipeg has been in service for 77 years. Alfred Station (which supplies Charles Station) lacks access to a satisfactory alternate supply in the event of a 12kV interruption out of Rover Station. Remedial action was recommended for both stations in the Due Diligence Report. It indicated the 4kV switchgear lineups at Alfred and Charles Stations lack arc-resistance and at Alfred Station are sometimes underrated for the available fault current during normal operating conditions. It also had concerns that neither station has an appropriate battery room, all station transformers have patched leaks, they contain asbestos materials, and that spare parts are in short supply.

In-Service Date:

March 2015.

Revision:

Cash flow revision only.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|--------|------|------|------|------|---------|
| Previously Approved | \$ 54.7 | \$ 5.1 | \$ - | \$ - | \$ - | \$ - | \$ - |
| Increase (Decrease) | - | (2.7) | - | - | - | - | - |
| Revised Forecast | \$ 54.7 | \$ 2.4 | \$ - | \$ - | \$ - | \$ - | \$ - |

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New Adelaide Station 66/12kV

Description:

Construct a new Adelaide Station with 3 x 66-12kV, 30 MVA transformers and three line-ups of switchgear for twenty-three feeder positions. Install a control building for 12kV switchgear, communication, control and protection equipment. Install a 66kV GIS building/equipment for station supply terminations. Install 2 x 3km lengths of 66kV cable through new ductline to extend 66 kV line W6 to terminate at new station. Install new distribution ductline egresses from new station to connect to existing ductline system in downtown area.

Justification:

Constructing the new Adelaide Station will allow for the decommissioning of King Station, addressing all concerns with safety and aging infrastructure at King Station. Adelaide Station also provides sufficient area capacity to allow the proposed William Station project to be deferred. Five feeders from the new Adelaide Station will be expressed through new ductline towards the Health Science Centre (HSC) to aid Sherbrook Station in supplying that area. Sherbrook Station does not have capacity to continue to handle load growth around the HSC Complex by itself.

In-Service Date:

October 2023

Revision:

New item.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|---------|--------|---------|---------|--------|--------|---------|
| Previously Approved | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - | \$ - |
| Increase (Decrease) | 62.1 | 0.7 | 21.2 | 22.9 | 8.8 | 5.0 | 3.4 |
| Revised Forecast | \$ 62.1 | \$ 0.7 | \$ 21.2 | \$ 22.9 | \$ 8.8 | \$ 5.0 | \$ 3.4 |

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Customer Service & Distribution

Description:

These projects are required to extend sub-transmission, distribution, and transformation facilities to supply service to residential, farm, commercial and industrial customers, and to replace plant facilities whose useful life has been exceeded. Specific types of expenditures include station and line additions, modifications and rebuilds, bank additions, breaker replacements, defective cable replacement, highway changes, field maintenance equipment, woodpole replacements and ice melting requirements. These costs are spread over many facility locations throughout the Province and are comprised of:

SYSTEM IMPROVEMENTS - Projects relating to additions and modifications to the existing electric distribution network to maintain system reliability and standards of safety, as a result of customer load growth, aging infrastructure and operational standards of performance. Assets and facilities include distribution stations, poles, conductors, transformers, streetlights, cables, duct lines and manholes.

CUSTOMER SERVICE - Projects relating to new or existing service extensions to commercial and residential customers.

NEW STATIONS - Projects relating to station development requirements in both Winnipeg and rural Manitoba to address capacity limitations.

OTHER CAPITAL - Projects relating to VHF radio replacements and field maintenance equipment.

Justification:

The residential, farm, commercial and industrial loads are expected to grow at an average rate in excess of 1.5% per annum and will require a program of additions to the system to accommodate these anticipated loads. As the distribution assets are approaching the end of their designated lifespan a four year program has been established to replace critical infrastructure.

Revision:

Combined Major and Base targets revised through to 2020/21 and increased thereafter to consider increased requirements for aging infrastructure replacement based on asset condition assessments.

The tables below show the changes in Base Targets with and without Major Projects > \$50M.

Customer Service and Distribution Base Target

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|----------------------------|-------|----------|----------|----------|----------|----------|------------|
| Previously Approved | NA | \$ 207.6 | \$ 211.8 | \$ 229.2 | \$ 143.8 | \$ 134.3 | \$ 3 709.4 |
| Increase (Decrease) | | (10.6) | (29.1) | (19.6) | 16.9 | 38.8 | 140.8 |
| Revised Forecast | NA | \$ 197.0 | \$ 182.6 | \$ 209.6 | \$ 160.7 | \$ 173.0 | \$ 3 850.2 |

Customer Service and Distribution Major & Base Target

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|----------------------------|-------|----------|----------|----------|----------|----------|------------|
| Previously Approved | NA | \$ 235.5 | \$ 240.9 | \$ 268.3 | \$ 181.7 | \$ 162.2 | \$ 3 718.6 |
| Increase (Decrease) | | - | - | - | 24.3 | 43.8 | 144.2 |
| Revised Forecast | NA | \$ 235.5 | \$ 240.9 | \$ 268.3 | \$ 206.0 | \$ 206.0 | \$ 3 862.9 |

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Customer Care & Energy Conservation

Description:

This program covers the additions and replacements of meters, transformers and related equipment and is comprised of:

CUSTOMER SERVICE – Projects that address service to a customer or customer-driven requests, including costs associated with new and replacement metering equipment, metering transformers and associated equipment.

OTHER– Projects to acquire tools and equipment that support operation and maintenance of the electric system.

Justification:

As required for the connection of new customers to the system, as well as replacement of existing time expired or faulty meters.

Revision:

Increase due to the addition of meter exchanges and sampling which will be reclassified from operating expenses to capital upon adoption of IFRS in 2015/16.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|-------|--------|--------|--------|--------|--------|---------|
| Previously Approved | NA | \$ 3.1 | \$ 3.2 | \$ 3.3 | \$ 3.3 | \$ 3.4 | \$ 59.8 |
| Increase (Decrease) | | - | 0.8 | 0.8 | 0.8 | 0.8 | 1.7 |
| Revised Forecast | NA | \$ 3.2 | \$ 4.0 | \$ 4.1 | \$ 4.1 | \$ 4.2 | \$ 61.5 |

Human Resources & Corporate Services

Description:

The program consists of information technology hardware and software upgrades and application development, corporate building refurbishments and new building programs, fleet vehicle refurbishment and replacement as well as projects associated with property easements, and acquisition of equipment for the training centre, print shop, fleet, materials management, and facilities.

CORPORATE BUILDINGS - Projects associated with the cyclical acquisition, and/or replacement of corporate administrative facilities throughout the Province.

FLEET ACQUISITIONS - Projects associated with the cyclical procurement, refurbishment and/or replacement of corporate fleet vehicles and equipment.

INFORMATION TECHNOLOGY HARDWARE / SOFTWARE - Projects associated with the purchase and installation of hardware and software upgrades, personal computers, networks and cabling.

INFORMATION APPLICATION DEVELOPMENT - Projects associated with installing, developing or upgrading computer applications for the corporation.

OTHER – Projects associated primarily with property easements and equipment for the training centre, print shop, fleet, materials management and facilities.

Justification:

To provide safe, efficient and productive; corporate buildings, fleet vehicles and equipment. Also to enhance computer systems throughout the corporation to achieve ongoing improvement in productivity and reliability.

Revision:

Base targets revised through to 2020/21 including new district office buildings and completion of Enterprise Asset Management project and escalated at 2% thereafter to consider increased requirements for aging infrastructure replacement.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|-------|---------|---------|---------|---------|---------|----------|
| Previously Approved | NA | \$ 75.7 | \$ 54.8 | \$ 54.8 | \$ 34.4 | \$ 32.1 | \$ 638.7 |
| Increase (Decrease) | | (0.7) | 20.2 | 0.2 | 20.6 | 22.9 | 294.9 |
| Revised Forecast | NA | \$ 75.0 | \$ 75.0 | \$ 55.0 | \$ 55.0 | \$ 55.0 | \$ 933.6 |

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GAS OPERATIONS:

Customer Service & Distribution

Description:

This program consists of projects required to extend, rebuild or upgrade: transmission pipelines, distribution pipelines, regulating stations, and customer service lines. This is comprised of:

SYSTEM IMPROVEMENTS – Projects relating to system modifications and betterment. Significant work includes capacity upgrades, system integrity upgrades, regulator station upgrades and cathodic protection upgrades.

NEW BUSINESS - Projects for installing new services and distribution mains for both commercial and residential customers.

Justification:

Required to provide ongoing safe and reliable supply of natural gas to customers.

Revision:

None.

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|---------------------|-------|---------|---------|---------|---------|---------|----------|
| Previously Approved | NA | \$ 34.9 | \$ 49.0 | \$ 34.9 | \$ 22.3 | \$ 21.2 | \$ 501.7 |
| Increase (Decrease) | | - | - | - | - | - | - |
| Revised Forecast | NA | \$ 34.9 | \$ 49.0 | \$ 34.9 | \$ 22.3 | \$ 21.2 | \$ 501.7 |

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Customer Care & Energy Conservation

Description:

This program consists primarily of costs to design, implement and deliver incentive based PowerSmart conservation programs to reduce gas consumption and greenhouse gas emissions in Manitoba, as well as meters, transformers and related equipment. This is comprised of:

GAS DEMAND SIDE MANAGEMENT – Projects to design, implement and deliver incentive based PowerSmart conservation programs to reduce gas consumption and greenhouse gas emissions in Manitoba.

CUSTOMER SERVICE – Projects that address service to a customer or customer-driven requests, including costs associated with new and replacement metering equipment, metering transformers and associated equipment.

Justification:

The natural gas Demand Side Management plan provides customers with exceptional value through the implementation of cost-effective energy conservation programs that are designed to minimize the total cost of energy services to customers, position the Corporation as a national leader in implementing cost-effective energy conservation and alternative energy programs, protect the environment and promote sustainable energy supply and service. Also required for the connection of new customers to the system, as well as replacement of existing time expired or faulty meters.

Revision:

Revisions to energy saving and expenditures for a number of programs to reflect current market information and designed to aggressively pursue cost-effective market-achievable savings. It is assumed that upon adoption of IFRS in 2015/16, the demand side management programs will continue to be capitalized, under the interim standard that continues to permit rate-regulated accounting.

Customer Care and Energy Conservation

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|----------------------------|-------|--------|--------|--------|--------|--------|---------|
| Previously Approved | NA | \$ 5.0 | \$ 5.1 | \$ 5.2 | \$ 5.3 | \$ 5.4 | \$ 95.0 |
| Increase (Decrease) | | (1.5) | 0.3 | (0.6) | (0.6) | (0.6) | (11.1) |
| Revised Forecast | NA | \$ 3.4 | \$ 5.4 | \$ 4.6 | \$ 4.7 | \$ 4.8 | \$ 84.0 |

Gas Demand Side Management

| | Total | 2015 | 2016 | 2017 | 2018 | 2019 | 2020-34 |
|----------------------------|-------|--------|---------|---------|--------|--------|----------|
| Previously Approved | NA | \$ 8.5 | \$ 7.2 | \$ 6.9 | \$ 4.8 | \$ 3.9 | \$ 42.1 |
| Increase (Decrease) | | 1.2 | 3.2 | 4.1 | 4.5 | 4.8 | 74.6 |
| Revised Forecast | NA | \$ 9.6 | \$ 10.4 | \$ 11.0 | \$ 9.4 | \$ 8.7 | \$ 116.7 |