



# EXHIBIT LIST FOR **EFFICIENCY MANITOBA**

3-YEAR ENERGY EFFICIENCY PLAN (2020/21-2022/23)

January 29, 2020

## **EFFICIENCY MANITOBA (EM) Exhibits**

| Ex. # | EM-1   | Effic | ciency  | Manito             | ba Ap   | plicatio | n - 0   | ctober 25, 2019   |
|-------|--------|-------|---------|--------------------|---------|----------|---------|---|
| Ex. # | EM-2   | New   | rs Rele | ase re:            | EM fil  | es first | three   | -year Efficiency Plan - October 25, 2019                                      |
| Ex. # | EM-3   |       |         | to PUB<br>· 4, 201 |         | mmen     | ts on T | imeline, Issues List and Intervener Applications -                            |
| Ex. # | EM-4   | EM    | letter  | respon             | se to C | CoC Inte | ervene  | er Application letter - November 5, 2019                                      |
| Ex. # | EM-5   | EM    | email ı | respon             | se to C | CC Moti  | ion for | Extension - December 6, 2019  |
| Ex. # | EM-6   | EM    | email ı | respon             | se to N | ЛIPUG    | Reque   | est for Extension - December 6, 2019  |
| Ex. # | EM-7   | EM    | email ı | respon             | se to D | OAY Red  | quest 1 | for Extension - December 6, 2019  |
| Ex. # | EM-8   | EM-   | AMC I   | nterve             | ner Inf | format   | ion Re  | equests (1-4) - December 13, 2019   |
| Ex. # | EM-8-1 | 11    | 11      | 11                 | 11      | 11       | 11      | Flexibility to EM to make adjustments to program offerings                    |
| Ex. # | EM-8-2 | "     | 11      | 11                 | 11      | II       | 11      | Figure 5-15 worksheets and working papers                                     |
| Ex. # | EM-8-3 | 11    | 11      | 11                 | 11      | 11       | 11      | Evaluation frameworks   |
| Ex. # | EM-8-4 | 11    | 11      | 11                 | 11      | II       | 11      | Data showing First Nation population is approx 80% of the LICO-125 population |
| Ex. # | EM-9   | EM-   | COALI   | TION I             | nterve  | ner Inf  | ormat   | ion Requests (1-12) - December 13, 2019                                       |
| Ex. # | EM-9-1 | (J. G | irevatt | :)                 |         |          |         | flexibility to EM to make adjustments to program offerings                    |
| Ex. # | EM-9-2 | 11    | 11      | "                  | "       | "        | 11      | Project Management Plan   |
| Ex. # | EM-9-3 | 11    | 11      | "                  | "       | "        | II      | residential and income-eligible program budget                                |
| Ex. # | EM-9-4 | 11    | 11      | "                  | "       | "        | II      | Measure level v. Portfolio level  |
| Ex. # | EM-9-5 | (C. I | Neme)   |                    |         |          |         | Heat Pumps electric efficiency measure - Home Renovations<br>Program          |

| M-9-7  |   |   |  |  |   |   |   |  |  |  |  |
|--------|---|---|--|--|---|---|---|--|--|--|--|
| M-9-7  |   |   |  |  |   |   | customers in Income Qualified program   |  |  |  |  |
| 5 /    | "   | "   | 11   | "  | II  | 11  | "Power Smart" program directive   |  |  |  |  |
| M-9-8  | "   | "   | 11   | 11   | 11  | п   | Recommendation 5 - aligns with Mr. Dunsky   |  |  |  |  |
| M-9-9  | (P. Fi  | tzpatı  | rick)  |  |   |   | Public Engagement   |  |  |  |  |
| M-9-10 | (Har  | per) - I  | Decem  | ber 18   | , 2019  |   | Integrated Resource Planning  |  |  |  |  |
| M-9-11 | "   | 11  | 11   | 11   | 11  | 11  | Weighting of Objectives to be considered  |  |  |  |  |
| M-9-12 | "   | II  | 11   | 11   | 11  | 11  | Table 9 - transposed between electricity and natural gas  |  |  |  |  |
| M-10   | EM-C  | DAY In  | terven   | er Info  | ormatio   | on Rec  | uests (1-2) - December 13, 2019   |  |  |  |  |
| M-10-1 | "   | 11  | 11   | 11   | 11  | 11  | Load Displacement Energy Savings (Table 17, 34 and 40)  |  |  |  |  |
| M-10-2 | "   | 11  | 11   | 11   | 11  | 11  | Load Displacement Energy Savings (Table 42)   |  |  |  |  |
| M-11   | EM-N  | MIPUG   | Interv   | ener l   | nforma  | ation I   | Requests (1-4) - December 13, 2019  |  |  |  |  |
| M-11-1 | "   | 11  | п  | 11   | 11  | 11  | D. Friesen - flexibility to EM to make adjustments to program offerings                               |  |  |  |  |
| M-11-2 | "   | "   | 11   | 11   | 11  | п   | P. Bowman - DSM Programing  |  |  |  |  |
| M-11-3 | "   | 11  | "  | "  | "   | 11  | P. Bowman - relevant metrics used to evaluate inclusion of Income Qualified and Indigenous programs   |  |  |  |  |
| M-11-4 | "   | 11  | 11   | 11   | 11  | 11  | P. Bowman - Applicability of RIM test   |  |  |  |  |
| M-12   |   |   | o PUB  | re: PU   | B-EM R  | ound  | I Information Requests containing CSI - December 23,  |  |  |  |  |
| M-13   |   |   | vidence  | e - Janu   | uary 2,   | 2020  |   |  |  |  |  |
| M-14   | CV of   | f Colle   | en Kur   | uluk   | January   | , 6, 20   | 20  |  |  |  |  |
| M-15   | CV of   | f Mich  | ael Sto  | cki - Ja   | nuary   | 6, 202  | 0   |  |  |  |  |
| M-16   | CV of Kyla Kramps - January 6, 2020   |   |  |  |   |   |   |  |  |  |  |
| M-17   | CV of Roberto Montanino - January 6, 2020   |   |  |  |   |   |   |  |  |  |  |
| M-18   | CV of Cheryl Pilek - January 6, 2020  |   |  |  |   |   |   |  |  |  |  |
| M-19   | CV of   | f Amy   | Tuck -   | Januar   | y 6, 20   | 20  |   |  |  |  |  |
| M-20   | CV of   | f Tracy   | / Sterda   | an - Jai   | nuary 6   | 5, 2020   | )   |  |  |  |  |
|        | M-9-9 M-9-10 M-9-11 M-9-12 M-10 M-10-1 M-10-2 M-11 M-11-3 M-11-4 M-11-3 M-14 M-15 M-16 M-17 M-18 M-19 | VI-9-8         VI-9-9       (P. Fi         VI-9-10       (Har)         VI-9-11       "         VI-9-12       "         VI-10-1       "         VI-10-2       "         VI-11-1       "         VI-11-2       "         VI-11-3       "         VI-11-4       "         VI-12       EM Id         Z019       VI-13       Rebut         VI-14       CV or         VI-15       CV or         VI-16       CV or         VI-17       CV or         VI-19       CV or | M-9-9 (P. Fitzpati M-9-10 (Harper) - M-9-11 " " M-9-11 " " M-9-12 " " M-10-1 " " M-10-2 " " M-11-1 " " M-11-2 " " M-11-3 " " M-11-4 " " M-12 EM letter to 2019 M-13 Rebuttal Extended W-15 CV of Michel M-16 CV of Colle M-16 CV of Cheroman CV of Colle M-17 CV of Colle M-18 CV of Cheroman CV of CV of Cheroman CV of | M-9-9 (P. Fitzpatrick) M-9-10 (Harper) - Decem M-9-11 " " " M-9-12 " " " " M-10-1 " " " " M-10-2 " " " " M-11-1 " " " " M-11-2 " " " " M-11-3 " " " " M-11-4 " " " " M-12 EM letter to PUB 2019 M-13 Rebuttal Evidence M-14 CV of Colleen Kur M-15 CV of Michael Sto M-16 CV of Roberto Mc M-17 CV of Roberto Mc M-18 CV of Amy Tuck - | M-9-9 (P. Fitzpatrick) M-9-10 (Harper) - December 18 M-9-11 " " " " M-9-12 " " " " M-10 EM-DAY Intervener Info M-10-1 " " " " " M-11-2 " " " " " M-11-3 " " " " M-11-4 " " " " M-12 EM letter to PUB re: PU 2019 M-13 Rebuttal Evidence - Januar M-14 CV of Colleen Kuruluk - M-15 CV of Kyla Kramps - Januar M-17 CV of Cheryl Pilek - Januar M-18 CV of Amy Tuck - Januar | M-9-9 (P. Fitzpatrick)  M-9-10 (Harper) - December 18, 2019  M-9-11 " " " " " " " " " " " " " " " " " " | M-9-9 (P. Fitzpatrick) M-9-10 (Harper) - December 18, 2019 M-9-11 " " " " " " " " " " " " " " " " " " |  |  |  |  |

| Ex. # | EM-21 | Direct Evidence PowerPoint Presentation - January 6, 2020  |
|-------|-------|--|
| Ex. # | EM-22 | EM letter to PUB re: CSI Additional Information - January 9, 2020  |
| Ex. # | EM-23 | Undertaking #2&3 - Natural Gas Forecast - 2019/20 DSM plan - January 9, 2020   |
| Ex. # | EM-24 | Undertaking #4 - 3.9% increase for first 5 years- January 9, 2020  |
| Ex. # | EM-25 | Undertaking #1 - LED lighting Program interactive effects and saving measures January 10, 2020                                       |
| Ex. # | EM-26 | EM Book of Documents to Daymark - January 14, 2020   |
| Ex. # | EM-27 | Undertaking #5 - low income customers co-payments for heating equipment replacements in other jurisdictions - January 14, 2020       |
| Ex. # | EM-28 | Undertaking #6 -First Nation on Reserve v. Metis Housing in Table 5.1 from CC-EM I-102 - January 14, 2020 - Revised January 21, 2020 |
| Ex. # | EM-29 | Undertaking #8 - PUB-EM I-22a information from MH remains the same - January 14, 2020  |
| Ex. # | EM-30 | Undertaking #9 - Table 5.6 including 4.5 cents per kilowatt hour for 5 and 10 year period - January 14, 2020                         |
| Ex. # | EM-31 | Undertaking #10 - Average annual energy savings per home - January 21, 2020  |
| Ex. # | EM-32 | Undertaking #7 - Variances in the budget during the plan will be addressed including step-by-<br>step basis                          |
| Ex. # | EM-33 | EM Final Argument - January 23, 2020   |
| Ex. # | EM-34 | EM Closing Submission Presentation - January 27, 2020  |
| Ex. # | EM-35 | Undertaking # 11 - Savings and Costs at program bundle and portfolio level- January 28, 2020   |
| Ex. # | EM-36 | EM Reply Submission - January 28, 2020   |





#### **EFFICIENCY MANITOBA**

3-YEAR ENERGY EFFICIENCY PLAN (2020/21-2022/23)

January 29, 2020

## **PUBLIC UTILITIES BOARD (PUB) Exhibits**

| Ex. # | PUB-1-1  | PUB | letter    | to EM   | re Pub  | lic Not   | ice - | September 10, 2019   |
|-------|----------|-----|-----------|---------|---------|-----------|-------|--|
| Ex. # | PUB-1-2  | "   | II        | 11      | 11      | "         | 1     | Public Notice re Efficiency Manitoba   |
| Ex. # | PUB-2    | Pub | lic Utili | ties Bo | oard Ru | iles of I | Pract | ise and Procedures   |
| Ex. # | PUB-3    |     |           |         |         |           |       | rder in Respect to Efficiency Manitoba's 2020/23<br>ber 5, 2019  |
| Ex. # | PUB-4    | PUB | B-EM R    | ound I  | Inforn  | nation    | Requ  | ests - November 7, 2019  |
| Ex. # | PUB-4-1  | "   | 11        | "       | 11      | II        | 11    | Programs and Initiatives considered - Confidential   |
| Ex. # | PUB-4-2  | "   | II        | 11      | 11      | 11        | 11    | Optimizing Power Smart: Options to Achieve Manitoba's<br>New Energy Savings Targets, 2017 - Dunsky Energy        |
| Ex. # | PUB-4-3  | "   | 11        | II      | 11      | II        | II    | Hard to reach and First Nations customers  |
| Ex. # | PUB-4-4  | "   | 11        | 11      | 11      | 11        | 11    | Comparison of budget costs and savings per plan v. preliminary plan prior to adjustment based on Multi-Criteria  |
| Ex. # | PUB-4-5  | "   | 11        | 11      | "       | 11        | 11    | Affordability of gas space heat compared to electric space heat for hard-to-reach and income qualified customers |
| Ex. # | PUB-4-6  | "   | 11        | 11      | 11      | 11        | 11    | Community Driven Outcomes Contract model (CDOC) in Community Geothermal program                                  |
| Ex. # | PUB-4-7  | "   | 11        | 11      | "       | 11        | 11    | Bill Affordability Collaborative Process Reports   |
| Ex. # | PUB-4-8  | "   | 11        | 11      | 11      | 11        | 11    | Cost-effective Savings targets of demand-side management   |
| Ex. # | PUB-4-9  | II  | 11        | 11      | "       | 11        | II    | Benchmarking of levelized costs with other jurisdictions   |
| Ex. # | PUB-4-10 | "   | 11        | "       | 11      | II        | 11    | Furnace Replacement Programs - Confidential  |
| Ex. # | PUB-4-11 | 11  | 11        | 11      | 11      | 11        | 11    | Cost breakdowns for each initiative in the Plan  |
| Ex. # | PUB-4-12 | 11  | 11        | 11      | 11      | 11        | 11    | Quantitative Screen  |
| Ex. # | PUB-4-13 | "   | 11        | "       | 11      | 11        | 11    | Cost-Effectiveness Analysis  |

| Ex. # | PUB-4-14 | "  | 11 | 11   | 11 | II | "  | PACT energy benefits   |
|-------|----------|----|----|------|----|----|----|--|
| Ex. # | PUB-4-15 | "  | "  | II   | 11 | 11 | "  | Discount rates   |
| Ex. # | PUB-4-16 | "  | 11 | II   | 11 | 11 | "  | Administration budget reasonableness compared to similar organizations                                   |
| Ex. # | PUB-4-17 | "  | II | "    | 11 | II | 11 | Payment Schedule with MH   |
| Ex. # | PUB-4-18 | "  | II | "    | 11 | II | 11 | Innovation and Research fund   |
| Ex. # | PUB-4-19 | "  | 11 | "    | 11 | II | "  | Evaluation, Measurement and Verification activities annual budget  |
| Ex. # | PUB-4-20 | "  | 11 | 11   | 11 | II | "  | Revenue loss related to downstream costs - Revised   |
| Ex. # | PUB-4-21 | "  | 11 | 11   | 11 | 11 | "  | Impact of Plan on rates and average customer bill amounts - Filed November 8, 2019                       |
| Ex. # | PUB-4-22 | 11 | 11 | II . | 11 | 11 | "  | Bill impact per portfolio/ Lifecycle Revenue Impact / EfficiecnyOne Analysis - Filed November 8, 2019    |
| Ex. # | PUB-4-23 | "  | 11 | 11   | 11 | 11 | 11 | Legislated Targets for Electric and Gas savings  |
| Ex. # | PUB-4-24 | "  | 11 | 11   | 11 | 11 | II | Participation and Achieved Savings   |
| Ex. # | PUB-4-25 | "  | 11 | 11   | 11 | II | 11 | Program achievements and reaching saving goals   |
| Ex. # | PUB-4-26 | "  | 11 | 11   | 11 | II | 11 | MH DSM Plans (2015-current)  |
| Ex. # | PUB-4-27 | "  | 11 | 11   | 11 | II | "  | MH Power Smart Annual Review and DSM Reports (2015-<br>current)  |
| Ex. # | PUB-4-28 | "  | 11 | 11   | 11 | II | II | Tables showing Spending totals for programs - Electricity and Gas Programs by customer segment           |
| Ex. # | PUB-4-29 | "  | 11 | 11   | 11 | II | 11 | Differences between Efficiency Plan and MH DMS 2015/16 Power Smart Plan                                  |
| Ex. # | PUB-4-30 | "  | 11 | 11   | 11 | II | 11 | Summary of MH's Non-Utility Generation policy for connecting solar PV or generating systems              |
| Ex. # | PUB-4-31 | "  | 11 | 11   | 11 | II | 11 | Details of load displacement and alternative energy projects - Confidential                              |
| Ex. # | PUB-4-32 | "  | "  | "    | 11 | 11 | 11 | DAY-EM I-65-76 - details and formulas at individual initiative levels                                    |
| Ex. # | PUB-4-33 | "  | "  | II   | 11 | 11 | 11 | New approaches or continuation of existing programs effective in Manitoba                                |
| Ex. # | PUB-4-34 | "  | "  | II   | 11 | 11 | 11 | Budget categories - breakdown of dollars and percentage of total budget                                  |
| Ex. # | PUB-4-35 | "  | "  | II   | 11 | 11 | 11 | Emerging Technologies - solar thermal, cold climate air source heat pumps and variable frequency drivers |
| Ex. # | PUB-4-36 | "  | 11 | II   | 11 | 11 | 11 | Independent Assessor   |
| Ex. # | PUB-4-37 | "  | "  | II   | 11 | 11 | 11 | April 24, 2019 Mandate Letter from Minister  |

|   | PUB-4-38  | 11                | 11                      | 11   | 11       | 11                       | 11           | Appointed members of Energy Efficiency Advisory Group qualifications   |
|---|---|-------------------|-------------------------|--|----------|--------------------------|--------------|--|
| Ex. #   | PUB-4-39  | II .              | 11                      | 11   | 11       | 11                       | "            | Code and Standards that savings will count from - Revised  |
| Ex. #   | PUB-4-40  | "                 | 11                      | 11   | 11       | 11                       | 11           | Interactive Effects from electrically heated homes and businesses  |
| Ex. #   | PUB-4-41  | "                 | II                      | 11   | 11       | 11                       | 11           | Interactive Effects from Codes and Standards   |
| Ex. #   | PUB-4-42  | "                 | 11                      | 11   | 11       | 11                       | "            | Definition of normal weather and weather normalization methodologies   |
| Ex. #   | PUB-4-43  | "                 | 11                      | 11   | 11       | 11                       | 11           | Date for filing Independent Assessor's Report to the Board   |
| Ex. #   | PUB-4-44  | 11                | 11                      | II   | II       | 11                       | II           | Electric load growths impact on EM's savings targets   |
| Ex. #   | PUB-4-45  | II                | 11                      | 11   | 11       | 11                       | "            | Savings targets - Revised November 8, 2019 - Confidential  |
| Ex. #   | PUB-4-46  | "                 | II                      | 11   | 11       | 11                       | 11           | Removal of impact of Codes and Standards from load and volume forecasts - <b>Revised November 8, 2019</b>  |
| Ex. #   | PUB-4-47  | 11                | 11                      | 11   | 11       | 11                       | 11           | 2018 Electric Load Forecast and Gas Volume Forecast - Confidential   |
| Ex. #   | PUB-4-48  | II .              | 11                      | 11   | II       | 11                       | 11           | Natural gas savings under Indigenous Program   |
| Ex. #   | PUB-5   |                   |                         |  |          |                          |              | espect of the Review of Confidential Information in iency Submission - November 12, 2019   |
|   | DLID C  | 0110              |                         |  |          |                          |              |  |
| Ex. #   | PUB-6   | POB               | s email                 | respor   | nse to ( | CC Mot                   | tion f       | or Extension - December 6, 2019  |
|   | PUB-7   |                   |                         |  |          |                          |              | or Extension - December 6, 2019<br>uest for Extension - December 9, 2019   |
| Ex. #   |   | PUB               | s email                 | respor   | nse to I | MIPUG                    | Requ         |  |
| Ex. #   | PUB-7   | PUB               | s email<br>s email      | respor   | nse to I | MIPUG<br>DAY Re          | Requ         | uest for Extension - December 9, 2019  |
| Ex. # Ex. #   | PUB-7<br>PUB-8  | PUB               | s email<br>s email      | respor   | nse to I | MIPUG<br>DAY Re          | Requ         | uest for Extension - December 9, 2019<br>t for Extension - December 9, 2019  |
| Ex. # Ex. # Ex. #                                     | PUB-7<br>PUB-8<br>PUB-9   | PUB<br>PUB        | email<br>email          | respor   | nse to I | MIPUG<br>DAY Re          | Requestion F | t for Extension - December 9, 2019  t for Extension - December 9, 2019  Requests (1-6) - December 13, 2019  First Nation reference includes on-reserve, or on-reserve  |
| Ex. # Ex. # Ex. #                                     | PUB-7 PUB-8 PUB-9   | PUB PUB           | email<br>email<br>B-AMC | respon<br>respon<br>Interve  | nse to I | MIPUG<br>DAY Re<br>forma | Requestion F | t for Extension - December 9, 2019  t for Extension - December 9, 2019  Requests (1-6) - December 13, 2019  First Nation reference includes on-reserve, or on-reserve and off-reserve account holders  |
| Ex. # Ex. # Ex. # Ex. # Ex. # Ex. #                   | PUB-7 PUB-8 PUB-9 PUB-9-1 PUB-9-2                                 | PUB PUB           | s email                 | responent respon | nse to I | MIPUG<br>DAY Re<br>forma | Requestion F | t for Extension - December 9, 2019  Requests (1-6) - December 13, 2019  First Nation reference includes on-reserve, or on-reserve and off-reserve account holders  Residential per person energy savings  First -Nations opportunities   |
| Ex. # Ex. # Ex. # Ex. # Ex. # Ex. #                   | PUB-7 PUB-8 PUB-9 PUB-9-1 PUB-9-2 PUB-9-3                         | PUB PUB           | s email                 | responent respon | nse to I | MIPUG<br>DAY Re<br>forma | Requestion f | t for Extension - December 9, 2019  Requests (1-6) - December 13, 2019  First Nation reference includes on-reserve, or on-reserve and off-reserve account holders  Residential per person energy savings  First -Nations opportunities   |
| Ex. # Ex. # Ex. # Ex. # Ex. # Ex. #                   | PUB-7 PUB-8 PUB-9 PUB-9-1 PUB-9-2 PUB-9-3 PUB-9-4                 | PUB PUB " "       | Bemail B-AMC            | respon   | nse to I | MIPUG<br>DAY Re<br>forma | Requestion F | t for Extension - December 9, 2019  Requests (1-6) - December 13, 2019  First Nation reference includes on-reserve, or on-reserve and off-reserve account holders  Residential per person energy savings  First -Nations opportunities  On-reserve dwellings compared to income-qualified dwelling  LICO-125 dwellings  Decline in participation in Insulation and Direct Install          |
| Ex. #       | PUB-7 PUB-8 PUB-9 PUB-9-1 PUB-9-2 PUB-9-3 PUB-9-4 PUB-9-5         | PUB PUB " " "     | Bemail B-AMC            | respon   | nse to I | MIPUG<br>DAY Re<br>forma | Requestion f | t for Extension - December 9, 2019  Requests (1-6) - December 13, 2019  First Nation reference includes on-reserve, or on-reserve and off-reserve account holders  Residential per person energy savings  First -Nations opportunities  On-reserve dwellings compared to income-qualified dwelling   |
| Ex. # | PUB-7 PUB-8 PUB-9 PUB-9-1 PUB-9-2 PUB-9-3 PUB-9-4 PUB-9-5 PUB-9-6 | PUB PUB " " " PUB | Bemail B-AMC            | respon   | nse to I | MIPUG<br>DAY Re<br>forma | Requestion f | t for Extension - December 9, 2019  Requests (1-6) - December 13, 2019  First Nation reference includes on-reserve, or on-reserve and off-reserve account holders  Residential per person energy savings  First -Nations opportunities  On-reserve dwellings compared to income-qualified dwelling  LICO-125 dwellings  Decline in participation in Insulation and Direct Install Programs |

| PUB-10-3             | 11  | 11  | 11  | 11   | 11  | "  | Cold climate air source heat pumps  |
|----------------------|---|---|---|--|---|--|---|
| PUB-10-4             | 11  | II  | 11  | 11   | 11  | 11   | Counting savings by switching from gas to electricity                         |
| PUB-10-5             | 11  | II  | 11  | 11   | 11  | 11   | PACT levelized cost of providing air source heat pumps                        |
| PUB-10-6             | PUB   | -CC (G  | irevatt   | )  |   |  | Measure level detail  |
| PUB-10-7             | 11  | II  | 11  | 11   | 11  | 11   | Measure Level Data and program information                                    |
| PUB-10-8             | 11  | 11  | II  | 11   | 11  | 11   | Mitigating Risks  |
| PUB-10-9             | 11  | 11  | 11  | 11   | II  | 11   | Recommendations to mitigate risks   |
| PUB-10-10            | 11  | 11  | 11  | 11   | II  | 11   | Achieving Targets   |
| PUB-10-11            | 11  | 11  | 11  | 11   | II  | 11   | Codes of Standards  |
| PUB-10-12            | 11  | 11  | 11  | 11   | II  | 11   | Recommendations   |
| PUB-10-13            | PUB   | -CC (F  | itzpatr   | ick)   |   |  | EEAG Mandate - clarifications and recommendations                             |
| PUB-10-14            | 11  | 11  | 11  | 11   | II  | 11   | Voluntary committee   |
| PUB-10-15            | 11  | 11  | 11  | 11   | II  | 11   | Limited interactions and best practices                                       |
| PUB-10-16            | 11  | 11  | 11  | 11   | II  | 11   | List of recommendations   |
| PUB-10-17            | PUB   | -CC (H  | larper)   |  |   |  | Savings Target  |
| PUB-10-18            | 11  | II.   | 11  | 11   | 11  | 11   | Load Forecast   |
| PUB-10-19            | 11  | II.   | 11  | 11   | 11  | 11   | Electric consumption baseline   |
| PUB-10-20            | "   | "   | "   | 11   | 11  | 11   | Enabling Strategies and Corporate Overhead - Electric and gas portfolios      |
| PUB-10-21            | 11  | 11  | 11  | 11   | II  | 11   | Gas and Electric PACT evaluation - discount rate                              |
| PUB-10-22            |   | -   | larper)   | - Dece   | mber 1  | 18,  | Evaluation Criteria - Factors   |
| PUB-10-23            | "   | <del>9</del> "  | 11  | 11   | 11  | 11   | Refiling 2020-23 Plan after analysis  |
| PUB-10-24            | 11  | 11  | 11  | 11   | 11  | 11   | Central Repository established for next Plan (2023-26) or refile 2020-23 plan |
| PUB-10-25            | 11  | II  | 11  | II   | 11  | 11   | Target savings values   |
| PUB-11               | PUB   | -DAY  | Interve   | ner In   | ormat   | ion R  | equests (1-19) - December 13, 2019  |
| Ī                    | <u> </u>  | - 11  | 11  | 11   | 11  | "  | Flexibility to achieve electric savings target                                |
| PUB-11-1             | II  |   |   |  |   |  |   |
| PUB-11-1<br>PUB-11-2 | "   | 11  | 11  | 11   | 11  | 11   | 15 year period  |
|                      | PUB-10-4 PUB-10-5 PUB-10-6 PUB-10-7 PUB-10-8 PUB-10-9 PUB-10-10 PUB-10-11 PUB-10-12 PUB-10-13 PUB-10-14 PUB-10-15 PUB-10-16 PUB-10-17 PUB-10-18 PUB-10-19 PUB-10-20 PUB-10-21 PUB-10-21 PUB-10-22 PUB-10-23 PUB-10-24 | PUB-10-3  PUB-10-4  PUB-10-5  PUB-10-6  PUB-10-7  PUB-10-8  PUB-10-9  PUB-10-10  PUB-10-11  PUB-10-12  PUB-10-13  PUB-10-14  PUB-10-15  PUB-10-16  PUB-10-17  PUB-10-18  PUB-10-19  PUB-10-20  PUB-10-21  PUB-10-21  PUB-10-23  PUB-10-24  PUB-10-25  " | PUB-10-3  PUB-10-4  PUB-10-5  PUB-10-6  PUB-10-7  PUB-10-7  PUB-10-8  PUB-10-9  PUB-10-10  PUB-10-11  PUB-10-12  PUB-10-13  PUB-10-14  PUB-10-15  PUB-10-16  PUB-10-17  PUB-10-16  PUB-10-18  PUB-10-19  PUB-10-20  PUB-10-21  PUB-10-21  PUB-10-21  PUB-10-23  PUB-10-24  PUB-10-25  PUB-10-25  PUB-10-25  PUB-10-25 | PUB-10-4 " " " " PUB-10-5 " " " " PUB-10-6 PUB-CC (Grevatt PUB-10-7 " " " " PUB-10-8 " " " " PUB-10-10 " " " " PUB-10-11 " " " PUB-10-12 " " " " PUB-10-14 " " " PUB-10-15 " " " PUB-10-16 " " " PUB-10-16 " " " PUB-10-18 " " " PUB-10-19 " " " PUB-10-20 " " " PUB-10-21 " " " PUB-10-21 " " " PUB-10-22 PUB-CC (Harper) PUB-10-23 " " " PUB-10-24 " " " PUB-10-24 " " " " PUB-10-25 " " " " " " PUB-10-25 " " " " " " PUB-10-25 " " " " " " " " " " " " " " " " " " " | PUB-10-3  PUB-10-4  PUB-10-5  """"""""""""""""""""""""""""""""""" | PUB-10-4 " " " " " " " " " " " " " " " " " " " | PUB-10-4 " " " " " " " " " " " " " " " " " " "                                |

| Ex. # | PUB-11-4  | 11  | 11    | 11      | 11     |        | 11    | Compare to MH DSM plan / results  |
|-------|-----------|-----|-------|---------|--------|--------|-------|---|
| EX. # | PUB-11-4  |     |       |         |        |        |       | Compare to With DSW planty results  |
| Ex. # | PUB-11-5  | II  | "     | "       | "      | "      | "     | membership in customer categories - targeted programs   |
| Ex. # | PUB-11-6  | "   | 11    | 11      | 11     | 11     | "     | High or Low factors - free rider, free driver and persistence factors                             |
| Ex. # | PUB-11-7  | 11  | 11    | 11      | 11     | 11     | "     | Table 17 - without load displacement projects   |
| Ex. # | PUB-11-8  | "   | 11    | II      | II     | 11     | "     | Cost effectiveness test   |
| Ex. # | PUB-11-9  | "   | "     | 11      | "      | 11     | "     | DSM Measures - levelized resource costs and levelized utility costs                               |
| Ex. # | PUB-11-10 | "   | 11    | 11      | 11     | 11     | "     | 5 Electric Measures and 5 Gas Measures - lowest scores PMVT                                       |
| Ex. # | PUB-11-11 | "   | 11    | 11      | 11     | 11     | "     | Sensitivity case of achievement   |
| Ex. # | PUB-11-12 | "   | 11    | 11      | 11     | 11     | "     | Evaluation framework - Econoler v. Uniform Methods Project (UMP)                                  |
| Ex. # | PUB-11-13 | "   | 11    | II      | 11     | 11     | "     | Challenges verifying savings from Codes and Standards   |
| Ex. # | PUB-11-14 | "   | "     | 11      | "      | 11     | "     | Measure life  |
| Ex. # | PUB-11-15 | "   | "     | 11      | "      | 11     | "     | Savings at risk   |
| Ex. # | PUB-11-16 | "   | "     | 11      | "      | 11     | "     | Codes and Standards Savings - Sunset periods  |
| Ex. # | PUB-11-17 | "   | 11    | 11      | 11     | 11     | "     | Gas Savings - Other Residential Equipment - high efficiency furnace standard                      |
| Ex. # | PUB-11-18 | "   | 11    | 11      | 11     | 11     | "     | Load Displacement projects  |
| Ex. # | PUB-11-19 | "   | "     | 11      | "      | 11     | "     | Underestimates or Overestimates   |
| Ex. # | PUB-12    | PUB | -MIPU | G Inte  | rvener | Inform | natio | n Requests (1-17) - December 16, 2019   |
| Ex. # | PUB-12-1  | PUB | -MIPU | G (D. F | riesen | )      |       | Load Displacement   |
| Ex. # | PUB-12-2  | "   | 11    | 11      | 11     | 11     | "     | PACT - life-for-life replacement at end of life   |
| Ex. # | PUB-12-3  | "   | 11    | 11      | 11     | 11     | "     | Update Potential Study - Industrial sector  |
| Ex. # | PUB-12-4  | "   | 11    | "       | 11     | 11     | 11    | Additional Flexibility  |
| Ex. # | PUB-12-5  | "   | 11    | 11      | 11     | 11     | "     | Acquisition Costs   |
| Ex. # | PUB-12-6  | "   | "     | 11      | "      | 11     | "     | Total Resource Costs (TRC) and Societal Cost Test (SCT) - instead of or in addition to PACT       |
| Ex. # | PUB-12-7  | "   | 11    | 11      | 11     | 11     | "     | Industrial gas portfolio - NPV percentages  |
| Ex. # | PUB-12-8  | "   | II    | II      | II     | II     | II    | Table 3. 9 - Removing Codes and Standards and separating Industrial and Load Displacement savings |

| Ex. # | PUB-12-9  | II .  | 11                                  | 11       | 11       | 11       | 11     | Table 3.15 - removing Load Displacement Projects                                  |  |  |  |  |  |
|-------|-----------|-------|-------------------------------------|----------|----------|----------|--------|---|--|--|--|--|--|
| Ex. # | PUB-12-10 | 11    | 11                                  | 11       | II       | "        | 11     | Incentive levels  |  |  |  |  |  |
| Ex. # | PUB-12-11 | PUB-  | MIPU                                | G (P. E  | Bowma    | ın)      |        | Short-term marginal value   |  |  |  |  |  |
| Ex. # | PUB-12-12 | "     | 11                                  | II       | 11       | 11       | 11     | Recommendations - DSM   |  |  |  |  |  |
| Ex. # | PUB-12-13 | "     | 11                                  | II       | 11       | 11       | 11     | Recommendations - Integrated Resource Plan (IRP)                                  |  |  |  |  |  |
| Ex. # | PUB-12-14 | "     | 11                                  | 11       | 11       | 11       | 11     | Recommendation 6 - recognize savings from agencies and government efforts         |  |  |  |  |  |
| Ex. # | PUB-12-15 | 11    | "                                   | 11       | II       | "        | "      | Recommendation 7 - Elasticity effects / factors                                   |  |  |  |  |  |
| Ex. # | PUB-12-16 | 11    | 11                                  | 11       | 11       | 11       | 11     | Recommendation 8 - efficient technologies   |  |  |  |  |  |
| Ex. # | PUB-12-17 | "     | 11                                  | 11       | 11       | 11       | 11     | Short-term rate impacts   |  |  |  |  |  |
| Ex. # | PUB-13    |       |                                     |          |          |          |        | dural Order in Respect of Efficiency Manitoba's 2020/21<br>on - December 17, 2019 |  |  |  |  |  |
| Ex. # | PUB-14    | PUB   | Book                                | of Doc   | ument    | s - Janı | uary 3 | 3, 2020   |  |  |  |  |  |
| Ex. # | PUB-15    | PUB   | letter                              | to all p | parties  | re: Rul  | le 13  | Decision - January 7, 2020  |  |  |  |  |  |
| Ex. # | PUB-16    |       |                                     | to all p |          | re: Red  | dactio | ons to Information Requests PUB/EM I-1 and PUB/EM I-                              |  |  |  |  |  |
| Ex. # | PUB-17    | Pre-A | Ask Mı                              | r. Harp  | er - Jar | nuary 1  | 15, 20 | 20  |  |  |  |  |  |
| Ex. # | PUB-18    | Pre-A | Pre-Ask Mr. Neme - January 15, 2020 |          |          |          |        |   |  |  |  |  |  |
| Ex. # | PUB-19    | Cold  | Clima                               | te Air S | Source   | Heat F   | ump    | Pricing - January 15, 2020  |  |  |  |  |  |





# EXHIBIT LIST FOR **EFFICIENCY MANITOBA**

3-YEAR ENERGY EFFICIENCY PLAN (2020/21-2022/23)

January 29, 2020

## **ASSEMBLY OF MANITOBA CHIEFS (AMC) Exhibits**

| Ex. # | AMC-1    | Inte | ervene | r Applio | cation  | - Octol | per 3 | 1, 2019   |
|-------|----------|------|--------|----------|---------|---------|-------|---|
| Ex. # | AMC-2    | AM   | C-EM   | Round    | I Infor | mation  | n Red | quests (1-30) - November 11, 2019   |
| Ex. # | AMC-2-1  | "    | II     | 11       | 11      | "       | 11    | Reconciliation weighted against other priorities  |
| Ex. # | AMC-2-2  | 11   | 11     | 11       | 11      | 11      | "     | Guiding Principles - Equity   |
| Ex. # | AMC-2-3  | "    | 11     | 11       | II      | 11      | "     | Customer needs and barriers and delivery strategies for on-<br>reserve First Nation customers   |
| Ex. # | AMC-2-4  | 11   | 11     | 11       | II      | 11      | 11    | Mandatory First Nations sensitivity and cultural awareness training   |
| Ex. # | AMC-2-5  | "    | II     | 11       | 11      | 11      | 11    | Breakdown of budget related to First Nation companies   |
| Ex. # | AMC-2-6  | "    | II     | II       | II .    | 11      | 11    | Target for First Nation staff hires   |
| Ex. # | AMC-2-7  | 11   | II     | 11       | II      | II      | II.   | Breakdown of budget for Indigenous programs and Indigenous Small Business programs  |
| Ex. # | AMC-2-8  | "    | 11     | 11       | 11      | 11      | "     | Electric v. Natural gas budgets for hard-to-reach segment and Indigenous natural gas program available for off-reserve First Nation customers |
| Ex. # | AMC-2-9  | 11   | 11     | 11       | 11      | "       | "     | Stakeholder Engagement Survey - engagement activities and level of engagement with First Nations  |
| Ex. # | AMC-2-10 | 11   | 11     | 11       | 11      | 11      | "     | Average bill impact of one-time rate increase for First Nation residential and commercial customers   |
| Ex. # | AMC-2-11 | 11   | II     | 11       | II      | 11      | "     | Estimated acquisition costs for programs within the Indigenous segment  |
| Ex. # | AMC-2-12 | "    | 11     | 11       | 11      | 11      | 11    | Further breakdown of 33.9% energy consumption   |
| Ex. # | AMC-2-13 | 11   | 11     | 11       | 11      | 11      | 11    | Program delivery approaches for First Nation businesses   |
| Ex. # | AMC-2-14 | 11   | 11     | 11       | 11      | 11      | "     | Non-energy benefits   |
| Ex. # | AMC-2-15 | "    | 11     | 11       | 11      | 11      | "     | 2017 Residential Energy Use Survey (REUS)   |

| Ex. #   | AMC-2-16   | 11  | 11    | 11               | 11      | 11       | "    | Indigenous population - supplementary positive impacts   |
|---------|------------|-----|-------|------------------|---------|----------|------|--|
| EX. #   | AIVIC-2-16 |     |       |                  |         |          |      | malgenous population - supplementary positive impacts  |
| Ex. #   | AMC-2-17   | "   | ш     | 11               | "       | "        | u    | Funding and coverage of Community energy plans,  |
|         |            |     |       |                  |         |          |      | community-led DSM Initiatives and education strategies and   |
| - "     | 1116 2 40  | 11  | 11    | 11               | 11      | 11       | 11   | outputs for on-reserve First Nations   |
| Ex. #   | AMC-2-18   |     |       |                  |         |          |      | Existing Efficiency Programs compared to Proposed Efficiency   |
|         |            |     |       |                  |         |          |      | Programs for First Nations   |
| Ex. #   | AMC-2-19   | "   | "     | II               | "       | II .     | "    | Average cost for Indigenous Insulation and Direct Install  |
|         |            |     |       |                  |         |          |      | Program  |
| Ex. #   | AMC-2-20   | "   | "     | II               | 11      | "        | "    | Metis Income Qualified Program (MIQP) and Indigenous Small<br>Business (ISB) Offers for off-reserve First Nation customers |
|         |            |     |       |                  |         |          |      |  |
| Ex. #   | AMC-2-21   | "   | "     | II               | II      | "        | "    | Commercial offerings for off-reserve First Nation businesses   |
| Ex. #   | AMC-2-22   | 11  | "     | "                | 11      | 11       | 11   | Solar Energy Program   |
| <u></u> |            |     | "     | 11               | 11      |          |      |  |
| Ex. #   | AMC-2-23   | "   | "     | "                | "       | "        | "    | Socio-economic study to assess non-energy benefits   |
| Ex. #   | AMC-2-24   | "   | "     | 11               | 11      | 11       | 11   | Indigenous bundle comparing budgeted costs and savings for   |
|         |            |     |       |                  |         |          |      | each program prior to adjustments based on Multi-Criteria  |
|         |            |     |       |                  |         |          |      | Decision Analysis (MCDA)   |
| Ex. #   | AMC-2-25   | "   | 11    | 11               | 11      | 11       | 11   | Bill Affordability collaborative process   |
| -/      |            |     |       |                  |         |          |      | ,  |
| Ex. #   | AMC-2-26   | "   | "     | 11               | 11      | 11       | п    | Funding from Federal Government or Indigenous Services   |
|         | , 2 20     |     |       |                  |         |          |      | Canada   |
| Ex. #   | AMC-2-27   | 11  | 11    | 11               | 11      | 11       | 11   | Programs, Budgets and energy use data for First Nation   |
| Γ. π    | AIVIC 2 27 |     |       |                  |         |          |      | community buildings  |
| Ex. #   | AMC-2-28   | 11  | 11    | 11               | 11      | 11       | 11   | Markey saturation rates for high-performing technologies for   |
| ΓΛ. π   | AIVIC 2 20 |     |       |                  |         |          |      | First Nations customers  |
| Ex. #   | AMC-2-29   | 11  | 11    | 11               | "       | 11       | 11   | Customer support services provided to First Nation customers   |
| LX. #   | AIVIC-2-25 |     |       |                  |         |          |      | customer support services provided to this treation customers  |
| Ex. #   | AMC-2-30   | 11  | 11    | 11               | 11      | 11       | 11   | Alternative documents used for income verification   |
| Δ. π    | AIVIC 2 30 |     |       |                  |         |          |      | The individual and the individual of   |
| Fy #    | AMC-3      | ΔΜΟ | Inter | vener l          | -videnc | re - Rev | /iew | of Efficiency Plan - December 9, 2019 - <b>Revised</b>   |
| π       | , 3        |     |       | · <b>20, 2</b> 0 |         |          | C VV | of Emiliary Fight December 5, 2015 Revised   |
|         |            |     |       | 20               |         |          |      |  |
| Ex. #   | AMC-3-1    | "   | "     | "                | "       | "        | "    | AMC letter re: Revised Intervener Expert Report -  |
| L       |            |     |       |                  |         |          |      | December 20, 2019  |
| Ex. #   | AMC-4      | AMC | Book  | of Do            | cument  | ts - Jan | uary | <sup>7</sup> 8, 2020   |
|         |            |     |       |                  |         |          | •    |  |
| Ex. #   | AMC-5      | AMC | Final | Writte           | n Subn  | nission  | - Ja | naury 23, 2020   |
| L       |            |     |       |                  |         |          |      |  |
| Ex. #   | AMC-6      | AMC | Final | Submi            | ssion B | ook of   | Aut  | horities - Janaury 23, 2020  |
|         |            |     |       |                  |         |          |      | •  |
| Ex. #   | AMC-7      | AMC | Closi | ng Sub           | missior | n Prese  | ntat | ion - January 27, 2020   |
|         |            |     |       |                  |         |          |      | <i>'</i>   |
|         | 1          |     |       |                  |         |          |      |  |





#### **EFFICIENCY MANITOBA**

3-YEAR ENERGY EFFICIENCY PLAN (2020/21-2022/23)

January 29, 2020

### CONSUMER ASSOCIATION OF CANADA (MANITOBA) and WINNIPEG HARVEST (CC)

| Ex. # | CC-1-1 | CC  | letter 1 | to PUB  | re: Int | ervene  | er Ap | plication - October 31, 2019   |
|-------|--------|-----|----------|---------|---------|---------|-------|--|
| Ex. # | CC-1-2 | II  | 11       | "       | II.     | "       | "     | Intervener Application   |
| Ex. # | CC-1-3 | "   | 11       | 11      | "       | II      | "     | Attachment A   |
| Ex. # | CC-1-4 | 11  | 11       | 11      | 11      | п       | "     | Attachment B   |
| Ex. # | CC-1-5 | 11  | 11       | 11      | 11      | п       | "     | CV of William Harper   |
| Ex. # | CC-1-6 | 11  | 11       | 11      | 11      | 11      | "     | CV of Patricia Fitzpatrick   |
| Ex. # | CC-1-7 | 11  | 11       | 11      | 11      | 11      | "     | CV of Chris Neme   |
| Ex. # | CC-1-8 | 11  | 11       | 11      | 11      | п       | "     | CV of Jim Grevatt  |
| Ex. # | CC-2   | CC- | EM Ro    | und I I | nform   | ation F | Requ  | ests (1-131)- November 12, 2019  |
| Ex. # | CC-2-1 | 11  | 11       | 11      | 11      | 11      | "     | Determination of Savings Targets - Reasonableness of net savings to meet savings targets |
| Ex. # | CC-2-2 | "   | "        | "       | "       | "       | "     | Determination of Savings Targets - Adjustments made for Prior DSM Activity               |
| Ex. # | CC-2-3 | "   | "        | "       | "       | "       | "     | Determination of Savings Targets - Natural Gas - Sources - Confidential                  |
| Ex. # | CC-2-4 | "   | "        | "       | "       | "       | "     | Achieving Savings Targets - Electricity - Achievement of Annual and Cumulative Targets   |
| Ex. # | CC-2-5 | "   | "        | "       | "       | II.     | "     | Achieving Savings Targets - Natural Gas- Achievement of Annual and Cumulative Targets    |
| Ex. # | CC-2-6 | II  | "        | "       | "       | "       | "     | Portfolio Targets - Treatment of Interactive Effects                                     |
| Ex. # | CC-2-7 | II  | "        | "       | "       | "       | "     | Forecasted Energy Savings - Codes and Standards  |
| Ex. # | CC-2-8 | 11  | 11       | 11      | 11      | 11      | "     | Customer Segments - Hard to Reach - Definition   |
| Ex. # | CC-2-9 | 11  | 11       | 11      | 11      | 11      | "     | Customer Segments - Industrial, Commercial and Agricultural Customers                    |

| Ex. # | CC-2-10 | 11 | II | 11   | 11 | II   | "   | DSM Program Opportunities - Identification - Approaches Used - Revised                         |
|-------|---------|----|----|------|----|------|-----|--|
| Ex. # | CC-2-11 | 11 | II | 11   | 11 | II   | "   | DSM Program Opportunities - Identification - DSM Aligned with the Act                          |
| Ex. # | CC-2-12 | "  | II | 11   | 11 | 11   | 11  | DSM Program Opportunities - Initial Screening - Cost Benefit<br>Analyses Used - <b>Revised</b> |
| Ex. # | CC-2-13 | 11 | "  | 11   | 11 | "    | "   | Program Bundles Considered - Development of Program Bundles                                    |
| Ex. # | CC-2-14 | 11 | "  | II . | 11 | "    | "   | Portfolio Development - Quantitative Analysis - Revised  |
| Ex. # | CC-2-15 | 11 | 11 | 11   | 11 | 11   | "   | Portfolio Development - Benefits for Manitobans and Manitoba economy                           |
| Ex. # | CC-2-16 | "  | 11 | 11   | II | 11   | 11  | Portfolio Development - Value for Money  |
| Ex. # | CC-2-17 | "  | "  | 11   | 11 | II . | "   | Portfolio Development Process - Cost Effectiveness - Program<br>Bundles                        |
| Ex. # | CC-2-18 | "  | "  | 11   | II | II   | "   | Portfolio Development - Customer Segment Considerations - Confidential                         |
| Ex. # | CC-2-19 | "  | 11 | 11   | II | II   | "   | Portfolio Development Process - Cost Effectiveness   |
| Ex. # | CC-2-20 | "  | "  | 11   | 11 | II . | "   | Portfolio Development Process - Hard to Reach Natural Gas<br>Segments                          |
| Ex. # | CC-2-21 | 11 | "  | 11   | 11 | "    | 11  | Portfolio Development Process - Electric Portfolio Savings                                     |
| Ex. # | CC-2-22 | 11 | "  | "    | 11 | "    | "   | Cost Effectiveness - PACT - Common Assumptions   |
| Ex. # | CC-2-23 | 11 | "  | "    | 11 | "    | II. | PACT - Costs Included - CRM/DSM System   |
| Ex. # | CC-2-24 | 11 | "  | "    | 11 | "    | II. | PACT - Costs Included - Evaluation Costs   |
| Ex. # | CC-2-25 | 11 | 11 | 11   | 11 | 11   | 11  | PACT - Electric Energy Benefits - Manitoba Hydro's Marginal Values                             |
| Ex. # | CC-2-26 | 11 | 11 | 11   | 11 | 11   | 11  | PACT - Levelized Cost - Basic for Values   |
| Ex. # | CC-2-27 | 11 | 11 | 11   | 11 | 11   | 11  | PACT - Electric Energy Benefits - Representative Values - <b>Revised</b>                       |
| Ex. # | CC-2-28 | 11 | "  | "    | 11 | "    | "   | PACT - Natural Gas - Costs Included - Furnace Replacement Program (FRP)                        |
| Ex. # | CC-2-29 | 11 | II | 11   | 11 | 11   | 11  | PACT - Levelized Cost - Natural Gas - Basis for Values   |
| Ex. # | CC-2-30 | 11 | II | 11   | 11 | 11   | 11  | PACT - Indigenous Customer Segment - Treatment of Diesel<br>Communities                        |
| Ex. # | CC-2-31 | 11 | II | 11   | 11 | 11   | 11  | Rate Impact Calculations - Formula Used - System Energy Values<br>Used                         |
| Ex. # | CC-2-32 | 11 | ıı | 11   | 11 | 11   | "   | Rate Impacts - Formula Used - Discount Rate Used   |
| Ex. # | CC-2-33 | 11 | II | 11   | II | II   | 11  | Rate Impacts - LRI Formula Used - Revenue Loss - <b>Revised</b>                                |

|       |         | Т.,        | "    | - 11 |    | - 11 |    |  |
|-------|---------|------------|------|------|----|------|----|--|
| Ex. # | CC-2-34 | <u> </u> " |      |      |    | "    |    | Rate Impacts - LRI - Natural Gas - Costs Included  |
| Ex. # | CC-2-35 | "          | "    | 11   | 11 | 11   | 11 | Customer Bill Impact - Basis for Calculation - Average Annual<br>Electric Bill Savings   |
| Ex. # | CC-2-36 | "          | 11   | II   | II | 11   | 11 | Customer Bill Impact - Basis for Calculation - Participation   |
| Ex. # | CC-2-37 | "          | 11   | 11   | 11 | 11   | 11 | Performance Monitoring - Scorecard   |
| Ex. # | CC-2-38 | "          | 11   | 11   | II | 11   | "  | Portfolio Budget - Private Sector v. Staff Costs   |
| Ex. # | CC-2-39 | "          | 11   | 11   | "  | 11   | "  | Portfolio Budget - Program Delivery / Program Design / Advertising / Program Administration / Incentives / Enabling Strategies and Corporate Overhead  |
| Ex. # | CC-2-40 | "          | 11   | 11   | II | 11   | "  | Portfolio Budget - Program Costs - Incentives - Attribution to<br>Natural Gas v. Electric and to Individual Program Bundles  |
| Ex. # | CC-2-41 | "          | II   | 11   | 11 | II   | "  | Portfolio Budget - Program Costs - Program Delivery - Attribution to Natural Gas v. Electric and to Individual Program Bundles   |
| Ex. # | CC-2-42 | II         | II   | 11   | 11 | 11   | 11 | Portfolio Budget - Program Costs - Program Design, Modelling,<br>Management, Administration, Technical Support and Customer<br>Support - Attribution to Natural Gas v. Electric and to Industrial<br>Program Bundles |
| Ex. # | CC-2-43 | "          | 11   | 11   | 11 | 11   | "  | Portfolio Budget - Program Costs - Program Advertising -<br>Attribution to Natural Gas v. Electric and to Individual Program<br>Bundles  |
| Ex. # | CC-2-44 | "          | "    | 11   | 11 | 11   | "  | Portfolio Budget - Treatment and Allocation of Enabling Strategies   |
| Ex. # | CC-2-45 | "          | 11   | II   | 11 | 11   | 11 | Portfolio Budget - Enabling Strategies - status and costs of CRM/DSM System  |
| Ex. # | CC-2-46 | "          | 11   | 11   | 11 | 11   | "  | Portfolio Budget - Corporate Overhead Budgets  |
| Ex. # | CC-2-47 | "          | "    | 11   | II | 11   | 11 | Contingency Funds  |
| Ex. # | CC-2-48 | "          | II.  | 11   | II | 11   | 11 | Enabling Strategies  |
| Ex. # | CC-2-49 | "          | II . | 11   | 11 | 11   | 11 | Assumptions and Calculations used to develop electric targets  |
| Ex. # | CC-2-50 | "          | "    | 11   | II | 11   | 11 | Net Savings - Savings Projections  |
| Ex. # | CC-2-51 | "          | "    | 11   | 11 | II   | 11 | Value of Electric System benefits  |
| Ex. # | CC-2-52 | "          | "    | II . | 11 | 11   | "  | Avoided Natural Gas purchasing costs   |
| Ex. # | CC-2-53 | "          | "    | II . | 11 | 11   | "  | Annual Program Electric Savings - Gross or Net Savings   |
| Ex. # | CC-2-54 | "          | 11   | II   | II | 11   | 11 | Annual Program Natural Gas Savings   |
| Ex. # | CC-2-55 | "          | 11   | 11   | 11 | 11   | "  | Calculations underpinning the levelized costs for electric programs from Figure A3.7   |

| Ex. # | CC-2-56 | 11 | 11 | II . | II . | 11 | 11 | Calculations underpinning the levelized costs for gas programs from Figure A3.10                    |
|-------|---------|----|----|------|------|----|----|---|
| Ex. # | CC-2-57 | 11 | II | 11   | "    | 11 | 11 | Participation levels and Market Penetration - MH's programs   |
| Ex. # | CC-2-58 | "  | 11 | 11   | 11   | II | "  | Financial incentives or rebates offered - Participation and Program Costs                           |
| Ex. # | CC-2-59 | "  | "  | 11   | "    | 11 | "  | Electrically-heated homes   |
| Ex. # | CC-2-60 | "  | "  | 11   | "    | 11 | "  | Efficient Furnaces  |
| Ex. # | CC-2-61 | 11 | "  | 11   | II . | 11 | "  | Financial Incentives / Rebates  |
| Ex. # | CC-2-62 | "  | 11 | II . | 11   | 11 | "  | Energy Consumption among Indigenous communities on-reserve - DSM                                    |
| Ex. # | CC-2-63 | 11 | "  | 11   | "    | 11 | "  | Community Geothermal Program - Community Driven Outcomes Contract model                             |
| Ex. # | CC-2-64 | "  | 11 | 11   | 11   | 11 | "  | LED lamps and fixtures  |
| Ex. # | CC-2-65 | "  | 11 | 11   | 11   | 11 | "  | Load Displacement Program - CHP system  |
| Ex. # | CC-2-66 | "  | 11 | 11   | 11   | 11 | "  | Projected savings associated with changes to Codes and Standards - Revised                          |
| Ex. # | CC-2-67 | "  | 11 | 11   | 11   | 11 | "  | Projected Savings - Programs  |
| Ex. # | CC-2-68 | "  | 11 | 11   | 11   | 11 | "  | Role of EEAG related to evaluations   |
| Ex. # | CC-2-69 | "  | 11 | 11   | 11   | 11 | "  | First year evaluation for programs  |
| Ex. # | CC-2-70 | "  | 11 | 11   | 11   | 11 | "  | Evaluation impacts of codes and standards   |
| Ex. # | CC-2-71 | "  | 11 | 11   | 11   | 11 | "  | Savings achieved through codes and standards  |
| Ex. # | CC-2-72 | "  | 11 | 11   | 11   | "  | "  | Residential General Service Lighting - High saving potential from Codes and Standards changes       |
| Ex. # | CC-2-73 | "  | 11 | 11   | 11   | 11 | "  | Evaluation Framework and Planning Report - impact on gross and net savings                          |
| Ex. # | CC-2-74 | 11 | 11 | 11   | 11   | 11 | "  | Evaluation Framework and Planning Report - net-to-gross adjustments                                 |
| Ex. # | CC-2-75 | "  | "  | 11   | "    | 11 | 11 | New and emerging Technologies - savings opportunities where addressed                               |
| Ex. # | CC-2-76 | 11 | "  | 11   | "    | 11 | "  | CRM/DSM System - Timeline   |
| Ex. # | CC-2-77 | 11 | 11 | 11   | 11   | 11 | "  | Continuation or elimination of existing MH programs - Criteria                                      |
| Ex. # | CC-2-78 | 11 | 11 | 11   | 11   | 11 | "  | Continuation or elimination of existing MH programs - Programs not included / New programs included |
| Ex. # | CC-2-79 | "  | 11 | 11   | 11   | 11 | "  | Inclusion of measures or technologies with higher acquisition costs                                 |

| Ex. # | CC-2-80  | 11 | ıı   | 11 | 11   | ıı   | II | Existing efficiency programs with high participation and energy savings                         |
|-------|----------|----|------|----|------|------|----|---|
| Ex. # | CC-2-81  | "  | II.  | 11 | II   | II.  | "  | Third party service providers   |
| Ex. # | CC-2-82  | 11 | 11   | 11 | 11   | 11   | 11 | Rejection of individual technologies  |
| Ex. # | CC-2-83  | "  | "    | 11 | 11   | "    | "  | Customer segment offer summary - Home Energy Check-Up and Energy Efficiency Kits Programs       |
| Ex. # | CC-2-84  | 11 | II   | 11 | II   | II   | "  | Direct Install offers - Participation   |
| Ex. # | CC-2-85  | "  | II   | 11 | 11   | II   | "  | Direct Install Offers - Online Home Energy Questionnaire - Online<br>Customer Portal - Timeline |
| Ex. # | CC-2-86  | "  | II   | 11 | II   | II   | "  | Direct Install Offers - Online home Energy Questionnaire  |
| Ex. # | CC-2-87  | "  | "    | 11 | II   | "    | "  | Direct Install Offers - Home Energy Check-Up - Eligibility Criteria                             |
| Ex. # | CC-2-88  | 11 | 11   | II | 11   | 11   | "  | Technologies - Home Energy Check-Up - HRV controls / Smart<br>Thermostats                       |
| Ex. # | CC-2-89  | "  | II . | 11 | 11   | II . | "  | Product Rebate Offers - Reasonableness of programs selected and projections                     |
| Ex. # | CC-2-90  | 11 | 11   | 11 | 11   | 11   | 11 | Product Rebate Offers - Retail Rebates - Online v. Instant Rebates                              |
| Ex. # | CC-2-91  | "  | II . | 11 | 11   | II . | "  | Home Renovation Program - Home Renovation Offers  |
| Ex. # | CC-2-92  | "  | "    | 11 | 11   | "    | "  | Home Renovation Program - Individual Projects Track   |
| Ex. # | CC-2-93  | "  | 11   | 11 | 11   | 11   | "  | Home Renovation Program - Home Energy Efficiency Loan -<br>Interest rate                        |
| Ex. # | CC-2-94  | "  | II.  | 11 | II   | II.  | "  | Home Renovation Program - Home Energy Efficiency Loan -<br>Emerging Technology                  |
| Ex. # | CC-2-95  | "  | II . | 11 | II   | II . | "  | Home Renovation Program - Home Energy Efficiency Loan - Products and Measures                   |
| Ex. # | CC-2-96  | "  | 11   | 11 | 11   | 11   | "  | New Home and Major Renovation - Proposed Participation  |
| Ex. # | CC-2-97  | 11 | 11   | 11 | 11   | 11   | 11 | New Home and Major Renovation - Savings 20% better than code                                    |
| Ex. # | CC-2-98  | 11 | ıı   | 11 | 11   | ıı   | "  | New Home and Major Renovation - Technologies  |
| Ex. # | CC-2-99  | "  | ıı   | 11 | 11   | ıı   | "  | Home Energy Efficiency Kits and Education - Participation                                       |
| Ex. # | CC-2-100 | "  | 11   | II | II   | 11   | "  | Home Energy Efficiency Kits and Education - Overview and Objectives                             |
| Ex. # | CC-2-101 | "  | 11   | 11 | II   | 11   | "  | Home Energy Efficiency Kits and Education - Technologies  |
| Ex. # | CC-2-102 | "  | 11   | 11 | II . | 11   | "  | Income Qualified Offers - Customer Segment Description and Residential Income Qualified Offers  |
| Ex. # | CC-2-103 | "  | II   | 11 | 11   | II   | "  | Income Qualified Offers - Residential Income Qualified Offers                                   |

| Ex. # | CC-2-104 | II | 11 | II   | 11 | "    | "   | Income Qualified Offers - Technologies - Two different payment structures                                  |
|-------|----------|----|----|------|----|------|-----|--|
| Ex. # | CC-2-105 | 11 | 11 | "    | 11 | "    | "   | Income Qualified Offers - Technologies - Demographics  |
| Ex. # | CC-2-106 | "  | 11 | 11   | 11 | "    | II  | Indigenous Programs - Development of Community Energy<br>Efficiency Plans                                  |
| Ex. # | CC-2-107 | "  | 11 | "    | 11 | "    | "   | Indigenous Programs - Insulation and Direct Install Offer  |
| Ex. # | CC-2-108 | 11 | 11 | "    | 11 | 11   | "   | Indigenous Programs - Small Business Offers  |
| Ex. # | CC-2-109 | 11 | 11 | 11   | 11 | 11   | "   | Indigenous Programs - Community Geothermal Program   |
| Ex. # | CC-2-110 | "  | 11 | "    | 11 | II . | "   | Metis Income Qualified - Metis Income Qualified Energy Program   |
| Ex. # | CC-2-111 | 11 | 11 | 11   | 11 | 11   | 11  | Commercial, Industrial and Agricultural Programs - Small Business and Appliance Offers                     |
| Ex. # | CC-2-112 | "  | 11 | 11   | 11 | 11   | "   | Commercial, Industrial and Agricultural Programs - Technologies -<br>Energy Star certified appliances      |
| Ex. # | CC-2-113 | 11 | 11 | 11   | II | 11   | "   | Commercial, Industrial and Agricultural Programs - In-Suite<br>Efficiency                                  |
| Ex. # | CC-2-114 | 11 | 11 | "    | 11 | II.  | "   | Commercial, Industrial and Agricultural Programs - Renovation Offers                                       |
| Ex. # | CC-2-115 | "  | 11 | "    | 11 | "    | "   | Commercial, Industrial and Agricultural Programs - Technologies - lighting controls                        |
| Ex. # | CC-2-116 | "  | 11 | 11   | 11 | "    | "   | Commercial, Industrial and Agricultural Programs - HVAC and Controls Offers                                |
| Ex. # | CC-2-117 | "  | 11 | "    | 11 | "    | "   | Commercial, Industrial and Agricultural Programs - New Construction and High-Performance Building Offers   |
| Ex. # | CC-2-118 | "  | 11 | "    | 11 | "    | "   | Commercial, Industrial and Agricultural Programs - Implementation - Energy Scoping Audits                  |
| Ex. # | CC-2-119 | 11 | 11 | "    | 11 | "    | "   | Commercial, Industrial and Agricultural Programs - Custom Offers   |
| Ex. # | CC-2-120 | "  | 11 | 11   | 11 | II   | "   | Commercial, Industrial and Agricultural Programs - Implementation - participation numbers / Energy Manager |
| Ex. # | CC-2-121 | 11 | II | II . | II | 11   | "   | Commercial, Industrial and Agricultural Programs - Implementation - customer participation / engagement    |
| Ex. # | CC-2-122 | 11 | 11 | 11   | 11 | II . | "   | Commercial, Industrial and Agricultural Programs - Implementation - "smaller customers"                    |
| Ex. # | CC-2-123 | "  | 11 | 11   | 11 | "    | "   | Savings acquisition costs - Comparability with other jurisdictions   |
| Ex. # | CC-2-124 | "  | 11 | 11   | 11 | II . | II. | Stakeholder Engagement - Missing Figure  |
| Ex. # | CC-2-125 | "  | 11 | 11   | 11 | ıı . | "   | Feedback and input received from public  |
| Ex. # | CC-2-126 | 11 | 11 | 11   | 11 | 11   | II  | Energy Efficiency Advisory Group (EEAG) - Feedback   |
| Ex. # | CC-2-127 | "  | 11 | 11   | 11 | 11   | "   | EEAG - Methodology   |
|       |          |    |    |      |    |      |     |  |

| Ex. # | CC-2-128 | " " " " Stakeholder Engagement Survey - Methodology   |
|-------|----------|---|
| Ex. # | CC-2-129 | " " " Stakeholder Summary Engagement - information prepared by MH for public engagement activities in 2019 - <b>Revised</b> |
| Ex. # | CC-2-130 | " " " " Monitoring, Evaluation and Continuous Improvement   |
| Ex. # | CC-2-131 | " " " EEAG - Support provided to members  |
| Ex. # | CC-3     | CC-Motion for Extension of Time for Bill Harper Evidence - December 5, 2019   |
| Ex. # | CC-4     | CC letter to PUB re: Intervener Expert Evidence - December 9, 2019  |
| Ex. # | CC-5     | expert Evidence prepared by Dr. Patricia Fitzpatrick - December 9, 2019   |
| Ex. # | CC-6-1   | expert Evidence prepared by Mr. William Harper- December 9, 2019 - Revised December 13, 2019                                |
| Ex. # | CC-6-2   | etter re: Revised Expert Evidence prepared by Mr. William Harper- December 13, 2019   |
| Ex. # | CC-7     | expert Evidence prepared by Mr. James (Jim) Grevatt, Energy Futures Group, Inc December 0, 2019                             |
| Ex. # | CC-8     | expert Evidence prepared by Mr. Chris Neme, Energy Futures Group, Inc December 9, 2019                                      |
| Ex. # | CC-9     | CC & MKO letter to PUB re: Request for Ratepayer Panel - December 13, 2019  |
| Ex. # | CC-10    | CC-AMC Intervener Information Requests (1-5) - December 13, 2019  |
| Ex. # | CC-10-1  | " " " First Nation Initiatives - energy savings   |
| Ex. # | CC-10-2  | " " " Cost -effective - Program Costs   |
| Ex. # | CC-10-3  | " " " Horizontal equity test  |
| Ex. # | CC-10-4  | " " " " Work papers of Figure 8-12  |
| Ex. # | CC-10-5  | " " " " LICO-125 First Nations numbers  |
| Ex. # | CC-11    | CC-DAY Intervener Information Requests (1-16) - December 13, 2019   |
| Ex. # | CC-11-1  | " " " Ratios of Incentives to other costs   |
| Ex. # | CC-11-2  | " " " Program delivery risks  |
| Ex. # | CC-11-3  | " " " " LI/ hard to reach customers Budget  |
| Ex. # | CC-11-4  | " " " Retrofit Projects   |
| Ex. # | CC-11-5  | " " " Mandate of the Act  |
|       |          |   |

| Ex. #    | CC-11-6        | "    | 11  | 11       | 11       | II        | "     | MISO customers   |  |  |  |  |  |  |  |  |  |
|----------|----------------|------|---|----------|----------|-----------|-------|--|--|--|--|--|--|--|--|--|--|
| Ex. #    | CC-11-7        | "    | "   | II       | 11       | II        | "     | Appropriateness of Methodologies   |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-11-8        | 11   | "   | "        | 11       | "         | "     | Non-participating customers bill impacts   |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-11-9        | "    | 11  | 11       | 11       | 11        | "     | Peak and off Peak Marginal Values  |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-11-10       | "    | II  | "        | 11       | 11        | II    | Weighted average measure life - savings - natural gas and electric portfolios    |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-11-11       | "    | II  | "        | 11       | II        | "     | Discount Rate  |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-11-12       | "    | "   | II.      | 11       | ıı        | "     | Cost-effectiveness test  |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-11-13       | "    | II  | "        | 11       | II        | "     | LRI Sensitivity analysis   |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-11-14       | "    | II .  | II .     | 11       | II .      | "     | Inflation to adjust natural gas and electricity rates in LRI analyses            |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-11-15       | "    | II .  | II .     | 11       | II .      | "     | Load displacement energy savings   |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-11-16       | "    | "   | "        | 11       | "         | "     | Authors of Report  |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-12          | CC P | CC Pre-Hearing Conference # 2 - Issues List - December 16, 2019 |          |          |           |       |  |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-13          | CC-N | MIPUG   | Interv   | vener I  | nforma    | atior | n Requests (1-7) - December 16, 2019   |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-13-1        | "    | II  | 11       | II       | II        | "     | P. Bowman - Cumulative Savings   |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-13-2        | "    | II  | "        | 11       | II        | "     | P. Bowman - Marginal Values  |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-13-3        | "    | II  | 11       | II       | II        | "     | P. Bowman - Cost-Effective   |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-13-4        | "    | 11  | 11       | 11       | 11        | II    | P. Bowman - Forum for Testing resource plans, supply options and marginal values |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-13-5        | "    | 11  | 11       | 11       | 11        | "     | Savings - EM Targets   |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-13-6        | "    | 11  | "        | II .     | II        | II    | BC DSM Plans   |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-13-7        | "    | 11  | "        | II .     | II        | II    | DSM Programs - lowest cost   |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-14          | Ope  | ning S  | tateme   | ent - Ja | nuary (   | 6, 20 | 20   |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-15          | CC L | etter t   | to all P | arties i | re: Cori  | recti | ons - January 13, 2020   |  |  |  |  |  |  |  |  |  |
| <b>I</b> |                | Droc | resentation of Dr. Patricia Fitzpatrick - January 14, 2020      |          |          |           |       |  |  |  |  |  |  |  |  |  |  |
| Ex. #    | CC-16          | FIES | entati  | on of [  | Or. Patı | ricia Fit | zpat  |  |  |  |  |  |  |  |  |  |  |
|          | CC-16<br>CC-17 |      |   |          |          |           |       | rrick - January 14, 2020<br>rr - January 14, 2020                                |  |  |  |  |  |  |  |  |  |

| Ex. # | CC-18 | Presentation of Mr. Jim Grevatt - January 14, 2020   |
|-------|-------|--|
| Ex. # | CC-19 | Presentation of Mr. Chris Neme - January 14, 2020  |
| Ex. # | CC-20 | Undertaking # 15 - Recommendations from comparable jurisdictions in terms of accessibility and residential programming - January 16, 2020                                  |
| Ex. # | CC-21 | Undertaking # 16 - Allocated percentages and allocated dollars of enabling strategies and corporate overhead to electric and gas portfolios by benefits - January 16, 2020 |
| Ex. # | CC-22 | Closing Submission Presentation - January 27, 2020   |





#### **EFFICIENCY MANITOBA**

3-YEAR ENERGY EFFICIENCY PLAN (2020/21-2022/23)

January 29, 2020

## MANITOBA INDUSTRIAL POWER USERS GROUP (MIPUG)

| Ex. # | MIPUG-1   | MIP | UG co  | mment   | ts on T  | imel  | ine and Scope of hearing - October 16, 2019   |
|-------|-----------|-----|--------|---------|----------|-------|---|
| Ex. # | MIPUG-2-1 | MIF | UG Int | ervene  | er Appl  | icati | on - October 31, 2019   |
| Ex. # | MIPUG-2-2 | "   | 11     | "       | "        | "     | Attachment - Additional Information   |
| Ex. # | MIPUG-2-3 | "   | 11     | 11      | 11       | "     | MIPUG comments on timeline and scope  |
| Ex. # | MIPUG-2-4 | "   | 11     | 11      | 11       | II    | CV of Melissa Davies  |
| Ex. # | MIPUG-2-5 | "   | 11     | 11      | 11       | "     | CV of Patrick Bowman  |
| Ex. # | MIPUG-2-6 | "   | 11     | "       | "        | "     | CV of Dale Friesen  |
| Ex. # | MIPUG-3   | MIF | PUG-EN | /I Rour | d I Info | orma  | ation Requests (1-18) - November 12, 2019   |
| Ex. # | MIPUG-3-1 | "   | II     | 11      | 11       | "     | Economic evaluations for programming choices - underlying inputs and supporting analysis to assess cost-effectiveness - <b>Revised</b> - Confidential |
| Ex. # | MIPUG-3-2 | "   | 11     | 11      | 11       | "     |   |
| Ex. # | MIPUG-3-3 | "   | 11     | 11      | 11       | "     | Cost-effectiveness of portfolio and programs - marginal values and benefits of capital investment deferrals   |
| Ex. # | MIPUG-3-4 | 11  | 11     | 11      | 11       | II.   | Impact on ratepayers - targeted savings and impacts on deferral capital expenditures and energy supply competitiveness                                |
| Ex. # | MIPUG-3-5 | "   | 11     | 11      | 11       | II    | Market Changes - adjustments for savings persistence to product lifetime  |
| Ex. # | MIPUG-3-6 | "   | "      | "       | "        | "     | Cost-effectiveness and impacts - Electrical Savings   |
| Ex. # | MIPUG-3-7 | "   | 11     | 11      | 11       | "     | Impacts for industrial, commercial and agricultural segments -<br>Planned savings - Electric  |
| Ex. # | MIPUG-3-8 | "   | 11     | 11      | 11       | "     | -   |
| Ex. # | MIPUG-3-9 | "   | 11     | 11      | 11       | "     | Impacts for industrial, commercial and agricultural segments -<br>Planned savings - Natural Gas   |

| Ex. # MIPUG-3-16 " " " " " " Levelized marginal values provided by Manitoba Hydro have evolved since the last review of a DSM plan  Ex. # MIPUG-3-17 " " " Levelized marginal value obtained when multiplying the levelized cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal values to be applied  Ex. # MIPUG-3-18 " " " " Sensitivity to program uptake on cost effectiveness  Ex. # MIPUG-4 MIPUG letter re: Request for Extension for Intervener Evidence - December 6, 2019  Ex. # MIPUG-5-1 MIPUG Intervener Evidence prepared by Patrick Bowman - December 10, 2019  Ex. # MIPUG-5-2 " " " " CV of Patrick Bowman  Ex. # MIPUG-6-1 MIPUG Intervener Evidence prepared by Dale Friesen - December 10, 2019 - Revised January 20, 2020  Ex. # MIPUG-6-2 " " " " CV of Dale Friesen  Ex. # MIPUG-7-1 " " " Benefits and Needs of Energy Efficiency Potential Study  Ex. # MIPUG-8 MIPUG-COALITION (HARPER) Intervener Information Requests (1-5) - December 13, 2019  Ex. # MIPUG-8-1 " " Derivation of Electric Target Values  |       |               |         |           |          |       |  |
|--|-------|---------------|---------|-----------|----------|-------|--|
| EX. # MIPUG-3-12 " " " " " Composition and consumption characteristics of the Manitoba commercial, industrial and agricultural customer segments EX. # MIPUG-3-13 " " " " Annual and cumulative energy (i.e. electric and natural gas) and capacity (i.e. electric only) savings EX. # MIPUG-3-14 " " " " " Savings load profiles are developed and applied to the marginal values provided by Manitoba Hydro for the purpose of determining marginal banefits EX. # MIPUG-3-16 " " " " Marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values to be applied to the marginal value obtained when multiphying the levelized cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal value by the PACT ratio is consistent with how Manitoba Hydro for intends for its marginal value to be applied to the forminal value to the forminal value to be applied to the forminal value to the forminal value to the  | Ex. # | MIPUG-3-10    | " "     | "         | 11       | "     | Cost Effectiveness of electric program bundles                     |
| Ex. # MIPUG-3-12    Commercial, industrial and agricultural customer segments  | Ex. # | MIPUG-3-11    | 11 11   | 11        | 11       | "     | Cost Effectiveness of Natural Gas program bundles                  |
| Ex. # MIPUG-3-13 " " " " Annual and cumulative energy (i.e. electric and natural gas) and capacity (i.e. electric only) savings  Ex. # MIPUG-3-14 " " " " Process and framework for identification of emerging technologie  Ex. # MIPUG-3-15 " " " " Savings load profiles are developed and applied to the marginal values provided by Manitoba Hydro for the purpose of determining marginal benefits  Ex. # MIPUG-3-16 " " " " " Marginal values provided by Manitoba Hydro have evolved since to last review of a DSM plan  Ex. # MIPUG-3-17 " " " " Levelized marginal value obtained when multiplying the levelized cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal values to be applied  Ex. # MIPUG-3-18 " " " " Sensitivity to program uptake on cost effectiveness  Ex. # MIPUG-3-18 MIPUG etter re: Request for Extension for Intervener Evidence - December 6, 2019  Ex. # MIPUG-5-1 MIPUG Intervener Evidence prepared by Patrick Bowman - December 10, 2019  Ex. # MIPUG-5-2 " " " " CV of Patrick Bowman  Ex. # MIPUG-6-2 " " " " CV of Dale Friesen  Ex. # MIPUG-6-2 " " " " CV of Dale Friesen  Ex. # MIPUG-7-1 " " " " Benefits and Needs of Energy Efficiency Potential Study  Ex. # MIPUG-8-1 " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-2 " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-4 " " " Marginal Values-peak and off-peak  | Fv #  | MIDIIG-3-12   | 11 11   | 11        | 11       | - 11  | Composition and consumption characteristics of the Manitoba        |
| Ex. # MIPUG-3-13 " " " " Annual and cumulative energy (i.e. electric and natural gas) and capacity (i.e. electric only) savings  Ex. # MIPUG-3-14 " " " " " " " Savings load profiles are developed and applied to the marginal values provided by Manitoba Hydro for the purpose of determining marginal benefits  Ex. # MIPUG-3-16 " " " " " Marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining marginal values provided by Manitoba Hydro for the purpose of determining the provided by Manitoba Hy | Δ. π  | 10111 00-3-12 |         |           |          |       | ·  |
| Ex. # MIPUG-3-14 " " " " " " " Savings load profiles are developed and applied to the marginal values provided by Manitoba Hydro for the purpose of determining marginal benefits.  Ex. # MIPUG-3-16 " " " " " Marginal values provided by Manitoba Hydro for the purpose of determining marginal benefits.  Ex. # MIPUG-3-17 " " " " " Marginal values provided by Manitoba Hydro have evolved since to last review of a DSM plan  Ex. # MIPUG-3-17 " " " " " " " Welvelized marginal value obtained when multiplying the levelized cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal values to be applied cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal values to be applied cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal values to be applied cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal values to be applied cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal values to be applied cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal values on cost effectiveness  Ex. # MIPUG-4 MIPUG letter re: Request for Extension for Intervener Evidence - December 6, 2019  Ex. # MIPUG-5-1 MIPUG Intervener Evidence prepared by Patrick Bowman - December 10, 2019 - Revised January 20, 2020  Ex. # MIPUG-6-1 January 20, 2020  Ex. # MIPUG-6-2 " " " " " CV of Dale Friesen  Ex. # MIPUG-7 MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 2019  Ex. # MIPUG-8-1 " " " " Benefits and Needs of Energy Efficiency Potential Study  Ex. # MIPUG-8-2 " " " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-4 " " " " Savings mandate  Ex. # MIPUG-8-5 " " " " " Marginal Values-peak and off-peak   | Ev. # | MIDLIC 2 12   | 11 11   | 11        | 11       | - 11  | -  |
| EX. # MIPUG-3-14 " " " " Savings load profiles are developed and applied to the marginal values provided by Manitoba Hydro for the purpose of determining marginal benefits with the marginal values provided by Manitoba Hydro for the purpose of determining marginal benefits with the marginal values provided by Manitoba Hydro for the purpose of determining marginal benefits with the marginal values provided by Manitoba Hydro have evolved since to last review of a DSM plan with the purpose of determining marginal value obtained when multiplying the levelized cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal value obtained when multiplying the levelized cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal values to be applied with the program uptake on cost effectiveness with the program uptake on cost effectiveness with the program uptake on cost effectiveness with mipug-4. Mipug-4 mipug- | LA. # | IVIIF OG-3-13 |         |           |          |       |  |
| Ex. # MIPUG-3-15 " " " " " Savings load profiles are developed and applied to the marginal values provided by Manitoba Hydro for the purpose of determining marginal benefits.  Ex. # MIPUG-3-16 " " " " " Marginal values provided by Manitoba Hydro have evolved since to last review of a DSM plan.  Ex. # MIPUG-3-17 " " " " Levelized marginal value obtained when multiplying the levelized cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal value to be applied.  Ex. # MIPUG-3-18 " " " " Sensitivity to program uptake on cost effectiveness.  Ex. # MIPUG-4 MIPUG letter re: Request for Extension for Intervener Evidence - December 6, 2019.  Ex. # MIPUG-5-1 MIPUG Intervener Evidence prepared by Patrick Bowman - December 10, 2019.  Ex. # MIPUG-6-1 MIPUG Intervener Evidence prepared by Dale Friesen - December 10, 2019 - Revised January 20, 2020.  Ex. # MIPUG-6-2 " " " " CV of Dale Friesen.  Ex. # MIPUG-7-1 MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 20.  Ex. # MIPUG-8-1 " " " Benefits and Needs of Energy Efficiency Potential Study.  Ex. # MIPUG-8-1 " " " Derivation of Electric Target Values.  Ex. # MIPUG-8-2 " " " Measurement to calculate energy savings, natural gas load, weath normalized load.  Ex. # MIPUG-8-3 " " " Savings mandate.  Ex. # MIPUG-8-4 " " " Savings mandate.  Ex. # MIPUG-8-5 " " " " Savings mandate.  | Ev. # | MIDLIC 2 14   | 11 11   | - 11      | - 11     | 11    |  |
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| Ex. # MIPUG-3-16 " " " " " " Marginal benefits  Ex. # MIPUG-3-17 " " " " " " Levelized marginal value obtained when multiplying the levelized cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal value obtained when multiplying the levelized cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal values to be applied  Ex. # MIPUG-3-18 " " " " " Sensitivity to program uptake on cost effectiveness  Ex. # MIPUG-4 MIPUG letter re: Request for Extension for Intervener Evidence - December 6, 2019  Ex. # MIPUG-5-1 MIPUG intervener Evidence prepared by Patrick Bowman - December 10, 2019  Ex. # MIPUG-5-2 " " " " " CV of Patrick Bowman  Ex. # MIPUG-6-1 MIPUG intervener Evidence prepared by Dale Friesen - December 10, 2019 - Revised January 20, 2020  Ex. # MIPUG-6-2 " " " " CV of Dale Friesen  Ex. # MIPUG-7 MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 20  Ex. # MIPUG-8-1 " " " Benefits and Needs of Energy Efficiency Potential Study  Ex. # MIPUG-8-1 " " " Derivation of Electric Target Values  Ex. # MIPUG-8-2 " " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-4 " " " " Savings mandate  Ex. # MIPUG-8-5 " " " " Marginal Values- peak and off-peak  | Ex. # | MIPUG-3-15    | " "     | 11        | "        | "     | Savings load profiles are developed and applied to the marginal    |
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| Ex. # MIPUG-3-16    MIPUG-3-17   " " " Levelized marginal value obtained when multiplying the levelized cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal value to be applied   Ex. # MIPUG-3-18   " " " Sensitivity to program uptake on cost effectiveness   Ex. # MIPUG-4   MIPUG letter re: Request for Extension for Intervener Evidence - December 6, 2019   Ex. # MIPUG-5-1   MIPUG Intervener Evidence prepared by Patrick Bowman - December 10, 2019   Ex. # MIPUG-5-2   " " " " CV of Patrick Bowman   Ex. # MIPUG-6-1   MIPUG Intervener Evidence prepared by Dale Friesen - December 10, 2019 - Revised January 20, 2020   Ex. # MIPUG-6-2   " " " " CV of Dale Friesen   Ex. # MIPUG-7   MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 20   Ex. # MIPUG-8   MIPUG-8-1   " " Benefits and Needs of Energy Efficiency Potential Study   Ex. # MIPUG-8-1   " " " Derivation of Electric Target Values   Ex. # MIPUG-8-2   " " " Measurement to calculate energy savings, natural gas load, weath normalized load   Ex. # MIPUG-8-3   " " " Measurement to calculate energy savings, natural gas load, weath normalized load   Ex. # MIPUG-8-4   " " " Marginal Values-peak and off-peak   |       |               |         |           |          |       |  |
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| Ex. # MIPUG-3-17    Cost by the PACT ratio is consistent with how Manitoba Hydro intends for its marginal value to be applied   Ex. # MIPUG-3-18   |       |               |         |           |          |       | last review of a DSM plan  |
| Ex. # MIPUG-3-18 " " " " " Sensitivity to program uptake on cost effectiveness  Ex. # MIPUG-4 MIPUG letter re: Request for Extension for Intervener Evidence - December 6, 2019  Ex. # MIPUG-5-1 MIPUG Intervener Evidence prepared by Patrick Bowman - December 10, 2019  Ex. # MIPUG-5-2 " " " " CV of Patrick Bowman  Ex. # MIPUG-6-1 MIPUG Intervener Evidence prepared by Dale Friesen - December 10, 2019 - Revised January 20, 2020  Ex. # MIPUG-6-2 " " " " CV of Dale Friesen  Ex. # MIPUG-7 MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 20  Ex. # MIPUG-8 MIPUG-8 MIPUG-COALITION (HARPER) Intervener Information Requests (1-5) - December 13, 2019  Ex. # MIPUG-8-1 " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " " Reasurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-4 " " " " Savings mandate  Ex. # MIPUG-8-5 " " " " Marginal Values- peak and off-peak   | Ex. # | MIPUG-3-17    | " "     | "         | "        | "     | Levelized marginal value obtained when multiplying the levelized   |
| Ex. # MIPUG-3-18 " " " " Sensitivity to program uptake on cost effectiveness  Ex. # MIPUG-4 MIPUG letter re: Request for Extension for Intervener Evidence - December 6, 2019  Ex. # MIPUG-5-1 MIPUG Intervener Evidence prepared by Patrick Bowman - December 10, 2019  Ex. # MIPUG-6-2 " " " " CV of Patrick Bowman  Ex. # MIPUG-6-1 MIPUG Intervener Evidence prepared by Dale Friesen - December 10, 2019 - Revised January 20, 2020  Ex. # MIPUG-6-2 " " " " CV of Dale Friesen  Ex. # MIPUG-7 MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 20  Ex. # MIPUG-7-1 " " " Benefits and Needs of Energy Efficiency Potential Study  Ex. # MIPUG-8 MIPUG-COALITION (HARPER) Intervener Information Requests (1-5) - December 13, 2019  Ex. # MIPUG-8-1 " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " Massings mandate  Ex. # MIPUG-8-5 " " " Marginal Values- peak and off-peak   |       |               |         |           |          |       | cost by the PACT ratio is consistent with how Manitoba Hydro       |
| Ex. # MIPUG-3-18  Ex. # MIPUG-4 MIPUG letter re: Request for Extension for Intervener Evidence - December 6, 2019  Ex. # MIPUG-5-1 MIPUG Intervener Evidence prepared by Patrick Bowman - December 10, 2019  Ex. # MIPUG-5-2 " " " " CV of Patrick Bowman  Ex. # MIPUG-6-1 MIPUG Intervener Evidence prepared by Dale Friesen - December 10, 2019 - Revised January 20, 2020  Ex. # MIPUG-6-2 " " " " CV of Dale Friesen  Ex. # MIPUG-7 MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 20  Ex. # MIPUG-7-1 " " Benefits and Needs of Energy Efficiency Potential Study  Ex. # MIPUG-8 MIPUG-COALITION (HARPER) Intervener Information Requests (1-5) - December 13, 2019  Ex. # MIPUG-8-1 " " Derivation of Electric Target Values  Ex. # MIPUG-8-2 " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " Savings mandate  Ex. # MIPUG-8-5 " " " Marginal Values- peak and off-peak  |       |               |         |           |          |       | intends for its marginal values to be applied                      |
| Ex. # MIPUG-5-1 MIPUG Intervener Evidence prepared by Patrick Bowman - December 10, 2019  Ex. # MIPUG-5-2 " " " " CV of Patrick Bowman  Ex. # MIPUG-6-1 MIPUG Intervener Evidence prepared by Dale Friesen - December 10, 2019 - Revised January 20, 2020  Ex. # MIPUG-6-2 " " " CV of Dale Friesen  Ex. # MIPUG-7 MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 20  Ex. # MIPUG-7-1 " " Benefits and Needs of Energy Efficiency Potential Study  Ex. # MIPUG-8 MIPUG-8 Intervener Information Requests (1-5) - December 13, 2019  Ex. # MIPUG-8-1 " " Derivation of Electric Target Values  Ex. # MIPUG-8-2 " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " Massurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " Massurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " Massurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " Massurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " Massurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " Massurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " Massurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " Massurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-5 " Massurement to calculate energy savings, natural gas load, weath normalized load   | Ex. # | MIPUG-3-18    | " "     | "         | "        | "     | Sensitivity to program uptake on cost effectiveness                |
| Ex. # MIPUG-5-2 " " " " CV of Patrick Bowman  Ex. # MIPUG-6-1 MIPUG Intervener Evidence prepared by Dale Friesen - December 10, 2019 - Revised January 20, 2020  Ex. # MIPUG-6-2 " " " " CV of Dale Friesen  Ex. # MIPUG-7 MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 20  Ex. # MIPUG-7-1 " " " Benefits and Needs of Energy Efficiency Potential Study  Ex. # MIPUG-8 MIPUG-COALITION (HARPER) Intervener Information Requests (1-5) - December 13, 2019  Ex. # MIPUG-8-1 " " " Derivation of Electric Target Values  Ex. # MIPUG-8-2 " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " Savings mandate  Ex. # MIPUG-8-5 " " Marginal Values- peak and off-peak   | Ex. # | MIPUG-4       | MIPUG I | etter re: | Reque    | st fo | r Extension for Intervener Evidence - December 6, 2019             |
| Ex. # MIPUG-6-1 MIPUG Intervener Evidence prepared by Dale Friesen - December 10, 2019 - Revised January 20, 2020  Ex. # MIPUG-6-2 " " " " CV of Dale Friesen  Ex. # MIPUG-7 MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 20  Ex. # MIPUG-7-1 " " " Benefits and Needs of Energy Efficiency Potential Study  Ex. # MIPUG-8 MIPUG-COALITION (HARPER) Intervener Information Requests (1-5) - December 13, 2019  Ex. # MIPUG-8-1 " " " Derivation of Electric Target Values  Ex. # MIPUG-8-2 " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " Repoals  Ex. # MIPUG-8-4 " " " Marginal Values- peak and off-peak   | Ex. # | MIPUG-5-1     | MIPUG I | Interven  | er Evide | ence  | prepared by Patrick Bowman - December 10, 2019                     |
| Ex. # MIPUG-6-2 " " " " CV of Dale Friesen  Ex. # MIPUG-7 MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 20  Ex. # MIPUG-7-1 " " " Benefits and Needs of Energy Efficiency Potential Study  Ex. # MIPUG-8 MIPUG-COALITION (HARPER) Intervener Information Requests (1-5) - December 13, 2019  Ex. # MIPUG-8-1 " " " Derivation of Electric Target Values  Ex. # MIPUG-8-2 " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " RP goals  Ex. # MIPUG-8-4 " " " Savings mandate  Ex. # MIPUG-8-5 " " Marginal Values- peak and off-peak  | Ex. # | MIPUG-5-2     | 11 11   | 11        | 11       | "     | CV of Patrick Bowman   |
| Ex. # MIPUG-7 MIPUG-COALITION (GREVATT) Intervener Information Requests (1) - December 13, 20  Ex. # MIPUG-7-1 " " " Benefits and Needs of Energy Efficiency Potential Study  Ex. # MIPUG-8 MIPUG-COALITION (HARPER) Intervener Information Requests (1-5) - December 13, 2019  Ex. # MIPUG-8-1 " " " Derivation of Electric Target Values  Ex. # MIPUG-8-2 " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " Repoals  Ex. # MIPUG-8-4 " " " Savings mandate  Ex. # MIPUG-8-5 " " " Marginal Values- peak and off-peak   | Ex. # | MIPUG-6-1     |         |           |          | ence  | prepared by Dale Friesen - December 10, 2019 - Revised             |
| Ex. # MIPUG-8   MIPUG-COALITION (HARPER) Intervener Information Requests (1-5) - December 13, 2019  Ex. # MIPUG-8-1 " " " Derivation of Electric Target Values  Ex. # MIPUG-8-2 " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " RP goals  Ex. # MIPUG-8-4 " " Marginal Values- peak and off-peak   | Ex. # | MIPUG-6-2     | " "     | "         | 11       | =     | CV of Dale Friesen   |
| Ex. # MIPUG-8  | Ex. # | MIPUG-7       | MIPUG-  | COALITI   | ON (GR   | EVA   | TT) Intervener Information Requests (1) - December 13, 2019        |
| Ex. # MIPUG-8-1 " " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " " Repails  Ex. # MIPUG-8-4 " " " Savings mandate  Ex. # MIPUG-8-5 " " " Marginal Values- peak and off-peak   | Ex. # | MIPUG-7-1     | " "     | II        | 11       | "     | Benefits and Needs of Energy Efficiency Potential Study            |
| Ex. # MIPUG-8-2 " " " " Measurement to calculate energy savings, natural gas load, weath normalized load  Ex. # MIPUG-8-3 " " " IRP goals  Ex. # MIPUG-8-4 " " " Savings mandate  Ex. # MIPUG-8-5 " " " Marginal Values- peak and off-peak   | Ex. # | MIPUG-8       |         | COALITI   | ON (HA   | RPE   | R) Intervener Information Requests (1-5) - December 13,            |
| Ex. # MIPUG-8-3 " " " " " IRP goals  Ex. # MIPUG-8-4 " " " " Savings mandate  Ex. # MIPUG-8-5 " " " Marginal Values- peak and off-peak   | Ex. # | MIPUG-8-1     | " "     | 11        | 11       | "     | Derivation of Electric Target Values                               |
| Ex. # MIPUG-8-4 " " " Savings mandate  Ex. # MIPUG-8-5 " " " Marginal Values- peak and off-peak  | Ex. # | MIPUG-8-2     | 11 11   | "         | "        | "     | Wedsurement to calculate energy savings, natural gas load, weather |
| Ex. # MIPUG-8-5 " " " Marginal Values- peak and off-peak   | Ex. # | MIPUG-8-3     | 11 11   | 11        | 11       | "     | IRP goals  |
| EX. # IVIIPOG-8-5  | Ex. # | MIPUG-8-4     | 11 11   | 11        | 11       | "     | Savings mandate  |
| Ex. # MIPUG-9 MIPUG-COALITION (NEME) Intervener Information Requests (1) - December 13, 2019   | Ex. # | MIPUG-8-5     | 11 11   | II .      | "        | "     | Marginal Values- peak and off-peak                                 |
|  | Ex. # | MIPUG-9       | MIPUG-  | COALITI   | ON (NE   | ME)   | Intervener Information Requests (1) - December 13, 2019            |

| Ex. # | MIPUG-9-1   | 11 11    | 11     | 11     | "    | Costs and Impacts of Geothermal Heat Pump recommendation                         |
|-------|-------------|----------|--------|--------|------|--|
| Ex. # | MIPUG-10    | MIPUG-DA | Y Inte | rvener | Info | ormation Requests (1-27) - December 13, 2019                                     |
| Ex. # | MIPUG-10-1  | 11 11    | 11     | 11     | II   | Energy Efficiency Potential Study  |
| Ex. # | MIPUG-10-2  | 11 11    | 11     | 11     | 11   | Life cycle methodology   |
| Ex. # | MIPUG-10-3  | 11 11    | 11     | 11     | 11   | Cumulative three-year spending and savings - Electric and Natural Gas Portfolios |
| Ex. # | MIPUG-10-4  | " "      | 11     | 11     | 11   | Incremental Annual Savings   |
| Ex. # | MIPUG-10-5  | 11 11    | 11     | 11     | 11   | Industrial Segments in Electric Portfolio Budget                                 |
| Ex. # | MIPUG-10-6  | 11 11    | 11     | 11     | 11   | Portfolio Budget - Industrial Segment - Electric and Natural Gas<br>Spending     |
| Ex. # | MIPUG-10-7  | 11 11    | 11     | 11     | 11   | Electric portfolio metrics - Commercial, Industrial and Agricultural segments    |
| Ex. # | MIPUG-10-8  | 11 11    | 11     | 11     | 11   | Electric Portfolio Budget - Industrial Segment                                   |
| Ex. # | MIPUG-10-9  | 11 11    | "      | "      | 11   | Cumulative Electric portfolio savings  |
| Ex. # | MIPUG-10-10 | 11 11    | 11     | 11     | 11   | Free ridership levels  |
| Ex. # | MIPUG-10-11 | 11 11    | 11     | 11     | II   | Measures targeting commercial, industrial and residential sectors                |
| Ex. # | MIPUG-10-12 | 11 11    | 11     | 11     | 11   | Industrial Custom program savings  |
| Ex. # | MIPUG-10-13 | 11 11    | 11     | 11     | 11   | PACT NPV relates to measure life   |
| Ex. # | MIPUG-10-14 | 11 11    | 11     | 11     | II   | Interactive effects on PACT NPV  |
| Ex. # | MIPUG-10-15 | 11 11    | 11     | 11     | 11   | Lifecycle Revenue Impact (LRI) Measure and Rate Impact Measure (RIM) Test        |
| Ex. # | MIPUG-10-16 | 11 11    | 11     | 11     | 11   |  |
| Ex. # | MIPUG-10-17 | 11 11    | 11     | 11     | II   | Collection and procurement of fuel for self-generation activities                |
| Ex. # | MIPUG-10-18 | 11 11    | 11     | 11     | 11   | Revised Table 33 - results of PMVT measure analysis for natural gas programs     |
| Ex. # | MIPUG-10-19 | 11 11    | 11     | 11     | 11   | Use of Lifecycle Methodology has on program metrics                              |
| Ex. # | MIPUG-10-20 | 11 11    | 11     | 11     | II   | Adjusting Codes and Standards savings based on date of enactment                 |
| Ex. # | MIPUG-10-21 | 11 11    | 11     | 11     | 11   | Extending the life of measure savings - sustainability of savings                |
| Ex. # | MIPUG-10-22 | 11 11    | 11     | 11     | 11   | Changes in marginal values   |

| Ex. # | MIPUG-10-23 | 11 11                 | 11   | 11      | II  | Rate Impacts for large industrial customers - services at higher voltage transmission rates                           |  |  |  |  |  |
|-------|-------------|-----------------------|--|---------|-----|---|--|--|--|--|--|
| Ex. # | MIPUG-10-24 | " "                   | 11   | 11      | "   | 15-year saving target   |  |  |  |  |  |
| Ex. # | MIPUG-10-25 | 11 11                 | 11   | II      | "   | Levelized costs used to support Table 1   |  |  |  |  |  |
| Ex. # | MIPUG-10-26 | 11 11                 | 11   | II      | "   | Load Displacement   |  |  |  |  |  |
| Ex. # | MIPUG-10-27 |                       | II   | 11      |     | PACT benefits of residential New Homes and MR, and Home<br>Renovation programs  |  |  |  |  |  |
| Ex. # | MIPUG-11    | The Regu<br>webiste I | •  |         |     | ty Impact Analysis for the Efficiency Manitoba Regulation   |  |  |  |  |  |
| Ex. # | MIPUG-12    | 4 Pages f             | Pages from PUB MFR 72 from MH 2017/18 & 2018/19 GRA - January 13, 2020 |         |     |   |  |  |  |  |  |
| Ex. # | MIPUG-13    | Patrick B             | Patrick Bowman's Presentation - January 20, 2020                       |         |     |   |  |  |  |  |  |
| Ex. # | MIPUG-14    | Dale Frie             | Dale Friesen's Presentation - January 20, 2020                         |         |     |   |  |  |  |  |  |
| Ex. # | MIPUG-15    |                       | _  |         |     | m PUB-14 page 380 incorporating corrections to chart - with tization and most current approximation of export pricing |  |  |  |  |  |
| Ex. # | MIPUG-16-1  | MIPUG V               | Vritten F  | inal Ar | ugm | ent - January 27, 2020  |  |  |  |  |  |
| Ex. # | MIPUG-16-2  | 11 11                 | 11   | 11      | "   | Hansard - March 9, 2017   |  |  |  |  |  |
| Ex. # | MIPUG-16-3  |                       | П  | 11      | "   | Hansard - April 10, 2017  |  |  |  |  |  |
| Ex. # | MIPUG-16-4  | " "                   | П  | 11      | "   | Hansard - May 11, 2017  |  |  |  |  |  |
| Ex. # | MIPUG-16-5  | " "                   | 11   | 11      | "   | Hansard - May 23, 2017  |  |  |  |  |  |





#### **EFFICIENCY MANITOBA**

3-YEAR ENERGY EFFICIENCY PLAN (2020/21-2022/23)

January 29, 2020

## **MANITOBA KEEWATINOWI OKIMAKANAK (MKO)**

| Ex. # | MKO-1    | МКС | ) Com   | ments   | on Prel | iminary  | y Issues List - October 17, 2019   |
|-------|----------|-----|---------|---------|---------|----------|--|
| Ex. # | MKO-2-1  | МКС | ) Inter | vener / | Applica | tion - C | October 31, 2019   |
| Ex. # | MKO-2-2  | 11  | 11      | 11      | "       | 11       | Comments on Timeline and Scope   |
| Ex. # | MKO-3    | МКС | D-EM F  | Round   | Inforn  | nation   | Requests (1-48) - November 12, 2019  |
| Ex. # | MKO-3-1  | "   | II      | 11      | 11      | 11       | Indigenous customer segment - calculation of customer numbers  |
| Ex. # | MKO-3-2  | "   | II      | 11      | 11      | 11       | Reconciliation - mandate and framework letters   |
| Ex. # | MKO-3-3  | 11  | 11      | 11      | 11      | 11       | Cost-effectiveness of electric DSM program bundles and portfolio   |
| Ex. # | MKO-3-4  | "   | II      | 11      | II      | 11       | Electric Portfolio Budget - Allocation and calculation of DSM Budget - percentage of DSM budget for income qualified and hard-to-reach customers |
| Ex. # | MKO-3-5  | "   | 11      | 11      | 11      | 11       | Electrical Energy Savings - DSM initiatives  |
| Ex. # | MKO-3-6  | "   | II      | 11      | 11      | 11       | Fuel Switching - Conversion from dies to electric - Diesel Zone  |
| Ex. # | MKO-3-7  | 11  | II      | 11      | "       | 11       | DSM Programs accessible to Residential customers - First Nations Residential On-Reserve customers  |
| Ex. # | MKO-3-8  | 11  | 11      | 11      | 11      | 11       | Stakeholder Engagement Survey - low income and hard-to-reach customers including First Nations customers   |
| Ex. # | MKO-3-9  | 11  | 11      | 11      | 11      | 11       | Engagement Strategy for low income and hard-to-reach customers - Public engagement   |
| Ex. # | MKO-3-10 | "   | II      | 11      | 11      | 11       | Third Party service providers - Safety and inclusion of norther First Nations  |
| Ex. # | MKO-3-11 | "   | 11      | 11      | 11      | 11       | Calculation of Estimated Bill savings - Indigenous customer segment annual bill savings  |
| Ex. # | MKO-3-12 | "   | 11      | 11      | 11      | 11       | Improvements to housing on-reserve - building designs, techniques and technology   |
| Ex. # | MKO-3-13 | 11  | "       | 11      | 11      | 11       | Energy consumption patterns for Indigenous customer segment  |
| Ex. # | MKO-3-14 | "   | 11      | 11      | 11      | 11       | Solar photovoltaic system - Indigenous customer segment  |
| Ex. # | MKO-3-15 | "   | II .    | 11      | II      | II       | Targeted areas in plan- Northern Manitoba and First Nations in<br>Northern Manitoba  |

| Ex. # | MKO-3-16 | "  | 11 | 11 | 11 | 11   | Modifications to Plan - customer engagement - First Nations<br>Customers   |
|-------|----------|----|----|----|----|------|--|
| Ex. # | MKO-3-17 | "  | 11 | 11 | 11 | 11   | Customer Relationship Management Interface - poor internet connection for First Nation customers   |
| Ex. # | MKO-3-18 | "  | 11 | "  | 11 | 11   | Evaluation, Measurement and Verification Framework   |
| Ex. # | MKO-3-19 | 11 | П  | 11 | "  | П    | Contingency Budget - Allocation of unallocated budget items  |
| Ex. # | MKO-3-20 | "  | 11 | 11 | 11 | 11   | Accessibility of energy-efficient products to northern Manitoba First Nations  |
| Ex. # | MKO-3-21 | "  | II | "  | II | "    | Timely, Efficient and Safety of Independent third-party contractor services provided to hard to reach locations including 4 First Nations in Diesel Zone |
| Ex. # | MKO-3-22 | "  | 11 | "  | 11 | II . | Program design - Customer Support - DSM program bundles and portfolio  |
| Ex. # | MKO-3-23 | "  | 11 | 11 | 11 | 11   | PACT Levelized cost of Emerging Technology - Indigenous customer segment   |
| Ex. # | MKO-3-24 | 11 | 11 | 11 | 11 | II   | Residential Programs - Indigenous customer segment   |
| Ex. # | MKO-3-25 | "  | II | 11 | 11 | 11   | Rebate Programs - Costs to reach customers who have not yet participated   |
| Ex. # | MKO-3-26 | "  | "  | 11 | 11 | II . | Product eligibility - Building Codes applicable to Indigenous customer segments  |
| Ex. # | MKO-3-27 | "  | 11 | 11 | 11 | 11   | Direct Install Offers for Homeowners - Indigenous customer segment - band-owned housing on-reserve   |
| Ex. # | MKO-3-28 | "  | 11 | "  | "  | II   | Retail Rebates - lack of internet availability   |
| Ex. # | MKO-3-29 | "  | "  | "  | 11 | "    | Barriers to DSM uptake on First Nations - Program design and delivery  |
| Ex. # | MKO-3-30 | 11 | 11 | "  | "  | 11   | Data Driven approach - Energy consumption data   |
| Ex. # | MKO-3-31 | "  | 11 | 11 | 11 | 11   | Community-led DSM - Energy Efficiency Education on First Nations   |
| Ex. # | MKO-3-32 | "  | 11 | 11 | 11 | 11   | Ongoing First Nation and Metis working group - Volunteer v.<br>Remunerated position  |
| Ex. # | MKO-3-33 | "  | 11 | "  | 11 | II . | Energy Efficiency impacts - Resiliency to climate change - First<br>Nations in northern Manitoba   |
| Ex. # | MKO-3-34 | 11 | 11 | 11 | 11 | 11   | Installation and direct install offer for Indigenous customer segment  |
| Ex. # | MKO-3-35 | 11 | 11 | 11 | 11 | 11   | First Nation Insulation and Direct Install Program - Residential direct install program  |
| Ex. # | MKO-3-36 | 11 | 11 | 11 | 11 | 11   | Federal funding of Indigenous customer segment - Cost sharing models   |
| Ex. # | MKO-3-37 | "  | 11 | "  | 11 | 11   | Identifying homes on-reserve with high energy consumption -<br>Engagement with First Nations   |
| Ex. # | MKO-3-38 | 11 | 11 | 11 | 11 | 11   | Small Business Offers under Indigenous customers segment   |
| Ex. # | MKO-3-39 | "  | 11 | "  | "  | 11   | Community Geothermal Program - MKO member First Nations including Diesel Communities   |
| Ex. # | MKO-3-40 | "  | 11 | 11 | 11 | 11   | Wood Pellet and Wood Chip hearing systems - Diesel Zones   |
| Ex. # | MKO-3-41 | 11 | 11 | 11 | 11 | II   | Solar Energy Program - Diesel Zones  |

| Ex. # | MKO-3-42 | "   | II      | 11     | 11       | "       | Solar Photovoltaic Program Incentive   |
|-------|----------|-----|---------|--------|----------|---------|--|
| Ex. # | MKO-3-47 | "   | 11      | 11     | 11       | "       | Codes and Standards - Indigenous customer segment  |
| Ex. # | MKO-3-48 | "   | 11      | 11     | 11       | 11      | Measurement of electric savings by customer segment                                      |
| Ex. # | MKO-4    | МКС | O-COA   | LITION | Interv   | ener In | formation Requests (1-2) - December 13, 2019   |
| Ex. # | MKO-4-1  | "   | 11      | 11     | 11       | 11      | Dr. P. Fitzpatrick Evidence - Engagement Survey - Engagement with First Nation customers |
| Ex. # | MKO-4-2  | "   | II      | 11     | 11       | 11      | C. Neme Evidence - Heat Pumps - Potential DSM initiatives - methods to select or reject  |
| Ex. # | MKO-5    | MKC | ) Final | Submi  | ission P | resenta | ation - January 27, 2020   |





#### **EFFICIENCY MANITOBA**

3-YEAR ENERGY EFFICIENCY PLAN (2020/21-2022/23)

January 29, 2020

### Daymark Energy Advisors (DAY) Exhibits

| Ex. # | DAY-1    | DEA   | A-EM R | ound I | Inform | nation Requests - Set I (1-79) - November 7, 2019                           |
|-------|----------|-------|--------|--------|--------|---|
| Ex. # | DAY-1-1  | "     | 11     | 11     | "      | Sensitivity Analyses work papers  |
| Ex. # | DAY-1-2  | "     | 11     | 11     | II .   | Metrics for Programs and Services   |
| Ex. # | DAY-1-3  | "     | "      | 11     | "      | Segmentation Analysis   |
| Ex. # | DAY-1-4  | "     | "      | 11     | "      | Programs offered by Manitoba Hydro  |
| Ex. # | DAY-1-5  | 11    | II     | II     | II .   | Materials associated with EEAG  |
| Ex. # | DAY-1-6  | "     | "      | 11     | "      | Plan Budget pie chart   |
| Ex. # | DAY-1-7  | "     | "      | 11     | II     | Composition of Energy Savings by Customer Segment - Confidential            |
| Ex. # | DAY-1-8  | "     | 11     | 11     | 11     | Codes and Standards   |
| Ex. # | DAY-1-9  | "     | 11     | 11     | 11     | Improve building designs, techniques and technologies for energy efficiency |
| Ex. # | DAY-1-10 | "     | "      | "      | 11     | Measure-level Savings and Budget Information                                |
| Ex. # | DAY-1-11 | "     | 11     | 11     | II     | Cost-Effectiveness Analysis Methodology - DSM initiatives by MH             |
| Ex. # | DAY-1-12 | "     | 11     | 11     | II     | Centra Gas offering existing DSM and Energy Efficiency Programs             |
| Ex. # | DAY-1-13 | "     | 11     | 11     | 11     | Critical Service Providers and Delivery Partners                            |
| Ex. # | DAY-1-14 | II II | 11     | 11     | 11     | Jump in Electric Annual Budget for 2021/22, but drop in 2022/23             |
| Ex. # | DAY-1-15 | "     | 11     | 11     | 11     | Enabling Strategies for Electric v. Natural Gas Programs                    |
| Ex. # | DAY-1-16 | II II | 11     | 11     | 11     | 75% Electric portfolio v. 25% natural gas portfolio rational                |
| Ex. # | DAY-1-17 | "     | "      | "      | 11     | methodology of cost allocation between rate classes                         |
| Ex. # | DAY-1-18 | "     | 11     | 11     | 11     | 30 Year time frame analysis - measures considered                           |

| Ex. # | DAY-1-19 | "  | II . | "  | "    | Annual Cost Components and value for program administration and corporate overheard for electric and natural gas                    |
|-------|----------|----|------|----|------|---|
| Ex. # | DAY-1-20 | "  | 11   | 11 | II   | Determination of marginal values  |
| Ex. # | DAY-1-21 | "  | 11   | 11 | 11   | Annual or Seasonal marginal cost value for evaluating each program bundle   |
| Ex. # | DAY-1-22 | "  | "    | "  | II . | table documenting marginal values annually for natural gas purchasing   |
|       |          |    |      |    |      | and transportation costs  |
| Ex. # | DAY-1-23 | "  | "    | "  | II . | Program administration cost test (PACT) - estimated values  |
| Ex. # | DAY-1-24 | 11 | 11   | "  | II . | expected natural gas program benefits are expected to be distributed i each year  |
| Ex. # | DAY-1-25 | "  | 11   | 11 | II   | program administration cost test (PACT) for cost-effectiveness testing - formulas used to estimate values                           |
| Ex. # | DAY-1-26 | "  | 11   | 11 | 11   | analysis of its electric and/or natural gas efficiency measures, programs   |
| ∟∧. # | DV1-1-70 |    |      |    |      | or plan using the Total Resource Cost Test  |
| Ex. # | DAY-1-27 | "  | 11   | 11 | 11   | sensitivity analysis in PACT by varying discount rate and NPV time horizon  |
| Ex. # | DAY-1-28 | "  | 11   | 11 | 11   | mathematical formulae and calculation parameters that were used to  |
|       | ]        |    |      |    |      | determine the measure-level PACT Ratio, PACT NPV and PACT Levelize  |
|       |          |    |      |    |      | Cost in both the Electric and Natural Gas portfolio cost-effectiveness  |
| Ex. # | DAY-1-29 | "  | 11   | 11 | 11   | FRP benefits captured in other areas of Efficiency Manitoba's cost-   |
|       |          |    |      |    |      | benefit or rate impact analyses   |
| Ex. # | DAY-1-30 | 11 | 11   | 11 | 11   | Consideration of there measures besides LRI as it applies the standard  |
| _,    |          |    |      |    |      | DSM rate impact measure test components and is consistent with the  |
|       |          |    |      |    |      | PACT  |
| Ex. # | DAY-1-31 | "  | II   | II | 11   | additional information as to how the rate increases were determined   |
| Ex. # | DAY-1-32 | "  | 11   | 11 | II   | Bill Savings calculations   |
| Ex. # | DAY-1-33 | "  | II   | 11 | 11   | Table 5.8 Customer Electric Bill Savings  |
| Ex. # | DAY-1-34 | "  | 11   | 11 | II   | Table 5.9 Customer Natural Gas Bill Savings   |
| Ex. # | DAY-1-35 | 11 | 11   | 11 | II   | Table 5.10 - Acquisition Costs by fiscal year   |
| Ex. # | DAY-1-36 | "  | 11   | 11 | II   | Support the proposed time span of 30 year for benefit calculation   |
| Ex. # | DAY-1-37 | "  | "    | "  | 11   | Net energy savings at DSM program bundle level.   |
| Ex. # | DAY-1-38 | "  | 11   | "  | 11   | Free-ridership and spillover effect in estimating the net energy savings  |
| Ex. # | DAY-1-39 | "  | 11   | II | ıı   | Other commonly used cost-effectiveness test (such as Total Resource Cost Test and Participant Cost Test)                            |
| Ex. # | DAY-1-40 | "  | II   | 11 | II   | Why the interactive effects were considered   |
| Ex. # | DAY-1-41 | "  | 11   | 11 | II   | Justification of remove the enabling strategies and corporate overhead costs from the PACT calculation for the program only metrics |
|       | DAY-1-42 | 11 | 11   | 11 | 11   | 15-year time span in the sensitivity analysis   |

|          | 1        | Т    | - 11 | 11 |      | - II 60 0 10 0 10 0 10 0 10 0 10 0 10 0 1   |
|----------|----------|------|------|----|------|---|
| Ex. #    | DAY-1-43 | "    | "    | "  | "    | Reasonableness of the assumptions and input parameters that were considered in the calculation of these metrics |
| Ex. #    | DAY-1-44 | 11   | II   | 11 | 11   | differences between its Plan and prior Manitoba Hydro DSM plans in  |
| Δ. π     | ואס      |      |      |    |      | order to provide the best available information to the PUB, based on  |
|          |          |      |      |    |      | ·   |
|          |          |      |      |    |      | four parameters – Incentive Costs, Program Costs, Staff Costs, and<br>Overhead Costs                            |
| Ex. #    | DAY-1-45 | 11   | 11   | 11 | 11   | Measure-level data for the proposed 2020/23 Efficiency Plan with  |
|          |          |      |      |    |      | Manitoba Hydro's 2015/16 Efficiency Plan comparing key parameters   |
| Ex. #    | DAY-1-46 | "    | 11   | "  | 11   | Natural gas EE budget for income-qualified customers is significantly   |
|          |          |      |      |    |      | higher in terms to total EE budget  |
| Ex. #    | DAY-1-47 | "    | "    | "  | II . | Non-energy benefits (NEBs)  |
| Ex. #    | DAY-1-48 | "    | II . | 11 | 11   | Plan Adjustments  |
| Ex. #    | DAY-1-49 | "    | 11   | 11 | 11   | Pace at which Efficiency Manitoba will be able to show that savings   |
| LΛ. π    | DA1-1-43 |      |      |    |      | have been achieved, so that progress towards annual goals can be  |
|          |          |      |      |    |      |   |
| - "      | DAY 4 50 | "    | - 11 | 11 | 11   | measured  |
| Ex. #    | DAY-1-50 |      |      |    |      | CRM/DSM system  |
| Ex. #    | DAY-1-51 | "    | 11   | "  | "    | DSM Scorecard   |
| Ex. #    | DAY-1-52 | II . | II   | 11 | "    | Comparing proposed EM&V methodology with industry standards.  |
| Ex. #    | DAY-1-53 | II . | II   | 11 | 11   | Multi-criteria decision analysis for each technology  |
| Ex. #    | DAY-1-54 | II . | II   | 11 | 11   | Table A3.1 program bundles and individual measures  |
| Ex. #    | DAY-1-55 | "    | II   | 11 | II   | Table A3.2 program bundles and individual measures  |
| Ex. #    | DAY-1-56 | II . | II   | 11 | 11   | Electric portfolio budget by program bundle   |
| Ex. #    | DAY-1-57 | 11   | II   | 11 | 11   | Natural gas portfolio budget by program bundle  |
| Ex. #    | DAY-1-58 | "    | II   | 11 | "    | Monthly Electric funding Schedules for 2020-2023 period   |
| Ex. #    | DAY-1-59 | "    | II   | 11 | "    | Monthly Natural Gas funding schedules for 2020-23 period  |
| Ex. #    | DAY-1-60 | "    | II   | 11 | "    | Electric portfolio PACT Results   |
| Ex. #    | DAY-1-61 | "    | 11   | 11 | "    | Natural Gas portfolio PACT Results  |
| Ex. #    | DAY-1-62 | "    | II . | "  | п    | Changes to Codes & Standards - National Energy Efficiency building codes and performance standard committees    |
| <u> </u> | DAY 4 55 | "    | 11   | 11 | 11   | ·   |
| Ex. #    | DAY-1-63 | "    | "    | "  | "    | Annual savings related with Codes & Standards during 2020/23 period   |
| Ex. #    | DAY-1-64 | "    | II . | 11 | II   | Attachment 3 - Tables in except format  |
| Ex. #    | DAY-1-65 | 11   | 11   | 11 | 11   | Annual Natural Gas Energy Savings (million m^3) at the program-bundle   |
|          |          |      |      |    |      | level   |
| Ex. #    | DAY-1-66 | "    | II . | 11 | 11   | Annual Natural Gas Cots (000's \$) at the program-bundle level  |
| Ex. #    | DAY-1-67 | 11   | 11   | 11 | 11   | Annual Natural Gas GHG Savings (tonnes CO2eq) at the program-bundle   |
|          |          |      |      |    |      | level   |

| Ex. # | DAY-1-68 | II   | II . | II | II . | Annual bill reduction per program bundle (all participants) for natural gas portfolio   |
|-------|----------|------|------|----|------|---|
| Ex. # | DAY-1-69 | II   | "    | II | II . | Natural gas program cost-effectiveness metrics at the program-bundle level              |
| Ex. # | DAY-1-70 | 11   | 11   | 11 | 11   | Annual Natural Gas participation estimates at the program-bundle level                  |
| Ex. # | DAY-1-71 | II . | II   | 11 | II   | Annual Electric Energy Savings (GWh) at the program-bundle level                        |
| Ex. # | DAY-1-72 | "    | "    | 11 | II   | Annual electric capacity savings (MW) at the program-bundle level                       |
| Ex. # | DAY-1-73 | 11   | 11   | II | 11   | Annual electric costs (000's \$) at the program-bundle level                            |
| Ex. # | DAY-1-74 | "    | II . | 11 | II . | Electric program cost effectiveness metrics at the program-bundle level                 |
| Ex. # | DAY-1-75 | "    | "    | 11 | II . | Annual bill reduction at the program-bundle level                                       |
| Ex. # | DAY-1-76 | "    | 11   | II | 11   | Annual electric participation at the program-bundle level                               |
| Ex. # | DAY-1-77 | "    | "    | 11 | 11   | Incentive setting methodology   |
| Ex. # | DAY-1-78 | "    | 11   | 11 | 11   | DSM potential studies for designing the Plan  |
| Ex. # | DAY-1-79 | II . | 11   | II | 11   | Managing under-spent energy efficiency budget.  |
| Ex. # | DAY-1-80 | "    | 11   | 11 | 11   | GHG Reduction Objective   |
| Ex. # | DAY-1-81 | II . | 11   | II | "    | Full-time equivalent Staff  |
| Ex. # | DAY-1-82 | "    | 11   | 11 | п    | Annual Reporting of Efficiency Manitoba   |
| Ex. # | DAY-1-83 | "    | "    | II | 11   | Cumulative total annual percentage savings targets                                      |
| Ex. # | DAY-1-84 | 11   | "    | "  | 11   | Natural gas target savings over long horizon  |
| Ex. # | DAY-1-85 | II . | 11   | 11 | II   | Measure-level savings and impact of measures not being able to realize full useful life |
| Ex. # | DAY-1-86 | "    | "    | 11 | II   | Evaluation Framework and Planning Report  |
| Ex. # | DAY-1-87 | "    | 11   | 11 | 11   | Evaluation Framework and Planning Report for evaluations of natural                     |
|       |          |      |      |    |      | gas energy and electric energy efficiency programs                                      |
| Ex. # | DAY-1-88 | "    | "    | 11 | "    | Codes & Standards programs  |
| Ex. # | DAY-1-89 | II . | 11   | 11 | II   | Customer Sited Load Displacement program  |
| Ex. # | DAY-1-90 | "    | "    | 11 | "    | Continuation and augmentation of existing energy efficiency programs                    |
| Ex. # | DAY-1-91 | "    | "    | 11 | ıı . | and initiatives  Manitoba Hydro DSM Optimization Report                                 |
| Ex. # | DAY-1-92 | 11   | 11   | 11 | 11   | Program Bundles - Savings targets   |
| Ex. # | DAY-1-93 | II   | 11   | II | 11   | Impact of the Plan at the measure versus the program level                              |
| Ex. # | DAY-1-94 | "    | "    | 11 | II . | Hard to reach Customers   |
|       |          |      |      |    |      |   |

| Ex. # | DAY-1-95 | "  | II  | 11      | II                 | Breakdown of customer types and rate classes of Manitoba Hydro  |  |  |  |  |
|-------|----------|--|---|---------|--------------------|---|--|--|--|--|
| Ex. # | DAY-1-96 | "  | 11  | 11      | II                 | Breakdown of customer types and rate classes of Centra Gas - Confidential                                   |  |  |  |  |
| Ex. # | DAY-1-97 | "  | II  | 11      | II                 | Electric annual program bundle savings by customers segment   |  |  |  |  |
| Ex. # | DAY-1-98 | 11   | 11  | 11      | 11                 | Natural annual program bundle savings by customer segment   |  |  |  |  |
| Ex. # | DAY-1-99 | "  | II  | 11      | II                 | Electric Portfolio Summary and NG Portfolio Summary - Program<br>Bundles - Bundle Summary                   |  |  |  |  |
| Ex. # | DAY-2    | DAY  | Email   | reques  | st re: Ex          | tension of time to file Report - December 6, 2019   |  |  |  |  |
| Ex. # | DAY-3    |  |   |         |                    | pert Report: Demand Side Management and Energy Efficiency - vised December 11 & 12, 2019 & January 10, 2020 |  |  |  |  |
| Ex. # | DAY-3-1  | "  | II  | ii      | II                 | DAY letter to PUB re: Revised Report - December 11, 2019  |  |  |  |  |
| Ex. # | DAY-3-2  | 11   | II  | 11      | 11                 | DAY letter to PUB re: Revised Report - December 12, 2019  |  |  |  |  |
| Ex. # | DAY-3-3  | "  | II  | 11      | II                 | DAY letter to PUB re: Revised Report - January 10, 2020   |  |  |  |  |
| Ex. # | DAY-4-1  | CV of John Athas - January 10, 2020  |   |         |                    |   |  |  |  |  |
| Ex. # | DAY-4-2  | John Athas further information regarding experience on utility ratemaking - January 10, 2020                                     |   |         |                    |   |  |  |  |  |
| Ex. # | DAY-5-1  | CV o   | f Kath  | y Kelly | - Janua            | ry 10, 2020   |  |  |  |  |
| Ex. # | DAY-5-2  | Kath   | Kathy Kelly further information regarding experience as consultant - January 10, 2020 |         |                    |   |  |  |  |  |
| Ex. # | DAY-6-1  | CV of Suman Gautam - January 10, 2020  |   |         |                    |   |  |  |  |  |
| Ex. # | DAY-6-2  | Suman Gautam further information regarding experience on energy efficiency - January 10, 2020                                    |   |         |                    |   |  |  |  |  |
| Ex. # | DAY-7    | Public PowerPoint Presentation - January 13, 2020  |   |         |                    |   |  |  |  |  |
| Ex. # | DAY-8    | Undertaking # 11 - Total resource cost without non-energy benefits column for tables 27-30 in Daymarks Report - January 17, 2020 |   |         |                    |   |  |  |  |  |
| Ex. # | DAY-9    |  |   | _       | •                  | ercentage increase using 4.5 cents per kilowatt hours in tables 42-<br>anuary 17, 2020                      |  |  |  |  |
| Ex. # | DAY-10   |  |   | _       | - PACT<br>.7, 2020 | ratio differences explained between Plan page 516 and slide 33 of   |  |  |  |  |
| Ex. # | DAY-11   | Unde   | ertakiı   |         | -Best p            | practices for improving access for hard-to-reach customers -  |  |  |  |  |