InterGroup

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Regarding the Efficiency Manitoba 3 year plan 2020-2023

On behalf of Manitoba Industrial Power Users Group (MIPUG)

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Introductory Comments

Introduction

- Bowman evidence (Dec 10, 2019) deals with PUB scope items 2 (cost effectiveness), 7 (evaluation of plan), 8 (EM mandate and recommendations to Gov't)
- Direct covers same material as Pre-filed Testimony, with some reordering to reflect the Decisions needed out of the PUB, and the organization of the evidence provided to the Board to date.
- Also opportunity to build-in concepts Daymark highlight (PMVT), to use more common language and concepts.
- Primarily addressing electricity.

Challenges to PUB and Intervenors in this proceeding

- Challenging scope for hearing:
  - Wide range of topics, from broad policy down to individual managerial questions regarding ability to deliver and program design
  - Board appears to have 2 sets of determinations to make:
    - “whether the efficiency plan should be approved, approved with suggested amendments, or rejected” (PUB Order 162/19, page 3)
    - opportunity for Recommendations to Government pursuant to the Act and Regulations
- First EM review – establish expectations for review, and set orderly process.
- Only apparent opportunity to weigh-in for next 3 years.
- What is meant by approval? Only broad direction, or must EM then follow this specific template?
- What can be included in “amendments”? If, for example, PUB asks EM to revise artificial program caps and rebalance plan, is that an amendment or a rejection? Who checks that directional amendments were properly adopted?
- What happens next in the case of a rejection?

Scope for hearing - breadth

- We assumed that review is broad – including policy questions regarding efficiency in Manitoba.
  - Different than Daymark's scope, Tr:1469 – all about oversight of EM entity.
- Outlook different for EM versus PUB:
  - In my view, EM fulfilled their narrow mandate within their 2 broad constraints:
    - 1. Find 1.5% electricity and 0.75% natural gas savings, spread across classes
    - 2. Accept all constraints and data from Manitoba Hydro on value.
    - Questions arise in relation to the decisions EM made in balance, caps, priorities.
  - EM is fundamentally a service agency and delivery agent.
  - At its core, EM delivered what was asked of it.
- PUB has opportunity to be much broader in the public interest – including advisability of the target, or alternative ways to set or measure target, and the context in which EM operates (e.g., non-EM efficiency effects).

Cost-Effectiveness/Evaluation (PUB scope 2,7)

- EM primarily reports Program Administrator Cost (PAC) Test, per Regulation
  - PAC test is utility-focused, which is appropriate. Other utility tests like Levelized Cost also important.
  - Can complement with other focus (participant, consolidated), but not as useful for cost effectiveness testing
    - Consolidated (e.g., Total Resource Cost or TRC) can be paternalistic.
      - Also ignores whether utility customers should fund (e.g., if saves a lot of water, why does this justify funding from electric rates?)
    - Participant focused tests (e.g., payback) useful for program design, but not as much for screening. Also have to consider the interactive effects the customer experiences.
  - Daymark's Pure Measure Value Test (PMVT) non-traditional, but interesting. Similar to TRC in many ways
    - Ultimately, it is testing if you are encouraging people to do things that are not in collective economic interest.
    - Issue in that it includes water savings, so already generous from perspective of electric/gas ratepayers
    - Failing PMVT not fatal to measure, but requires <u>serious</u> consideration of limits.

Cost-Effectiveness Example

Comparison of Selected EM Programs per Bowman evidence

	Electric Bundle Commercial/ Industrial Custom	Residential Direct Install	Residential Product Rebates	Residential Home Renovation	
Utility Considerations					
Total 3-yr savings (GW.h)	70.6	5.7	34.7	15.3	Daymark Table 32
PAC Cost ($M NPV)	$8.88	$1.62	$10.24	$7.72	PUB/EM I-11a-b
Levelized Cost (c/kW.h)	1.17	4.15	3.49	3.67	PUB/EM I-11a-b
Marginal Value (c/kW.h)	6.07	6.35	6.06	10.65	
PACT Ratio	5.18	1.53	1.74	2.90	PUB/EM I-11a-b
Collective Considerations					
PMVT % <1	4%	19%	9%	**91%**	Daymark Table 32
Participant Considerations					
Payback period	5.41	0.77	2.27	4.14	PUB/EM I-11a-b
PV Revenue/Bill Change ($000s)	37871	2739	20801	15931	Lost Revenue = RIM cost - PAC cost
PACT Benefit (PV Marginal Value) ($000s)	46008	2482	17776	22428	PUB/EM I-11a-b
share of benefits to participants (%)	82.3%	**110.4%**	**117.0%**	71.0%	

Very small EM investment (low LC). Massive savings at low cost. Economics thin for customer (poor payback). Suggests much more potential not being pursued. Issue appears to be "caps" EM applies to its support levels.	Weak bundles. Very costly power to EM (LC) due to high incentives/costs. Poor PAC. Customers make out exceedingly well (short payback, bill savings exceed value of power to MH). Dubious merit to EM. Also very short (mostly 10 yrs or less) - limited IRP value	Very valuable power (distribution peaks). Very costly measures that are not cost justified (PMVT). Result is poor customer payback. Looks OK for EM because of valuable power, but significant location concerns.

EM Mandate and Recommendations to Gov't (PUB scope 8) - IRP

- IRP versus this hearing: Difference is how "need" is defined, and whether the range of options is constrained.
  - Need here is prescriptive – 1.5%/year
  - Range of options limited to efficiency
- This is backward approach – mirror image of criticism of NFAT
  - "need" in IRP is not just a target date for new resources – it is about optimized way to deal with all periods. For example, opportunities in advance of shortfalls that allow more exports.
  - Range of options should include generation, and DSM at alternate levels and means.
- Tied to cost effectiveness
  - PAC measures cost of efficiency compared to other alternatives at marginal cost, assuming power is needed.
  - RIM/LRI is more about opportunities when power is not strictly needed – if you don't need the power, then don't pursue the resource unless it helps lower rates and bills.

EM Mandate and Recommendations to Gov't (PUB scope 8) – MV (part 1)

- Issues of Marginal Values (MV)
  - Need for confidentiality of the roots, e.g., export contracts being negotiated.
  - Regulations limit the MV to that "determined" by MH
  - Neither of these limits parties from understanding the basis of the derivation.
- Still critical to review MV, even if must use Hydro's underlying values:
  - Are the MV being used correctly?
    - MH relies on long-term resource planning, over 30+ years. If programs or measures only last 5-10 years, are these the correct MV?
    - Why is there no on/off-peak values? Likely because over 30 years it isn't a factor in resource planning. But it is a huge factor in shorter-term value (e.g., see SEP prices).
    - Further, resource planning MV are based on future build dates using very conservative drought assumptions (e.g., import limits at 10% and only off-peak). These criteria are conservative so the lights stay on, but they don't represent how Hydro will actually run the system. In practice, Hydro often can import more, at much lower costs, to supply a drought, so the system is much less costly to run than Resource Planners model suggests. Without adjustment, this can lead to over-investment in DSM.

EM Mandate and Recommendations to Gov't (PUB scope 8) – MV (part 2)

- What do MV details tell us about what is really needed? Generation versus Distribution? Capacity versus Energy? More refined monthly values?
- Example of issues that are not well-canvassed in this proceeding due to limited MV access:
  - Air source heat pumps could yield large energy savings for November/March/warmer days in Dec/Jan/Feb. But do little in January at -30C – this dramatically lowers their value since large amounts of MV benefits come from peak kW reductions.
  - Home Renovation appears to get large MV benefit from peak savings on distribution system (average benefit is >10 cents/kWh compared to 6 cents for more flat load). But distribution savings are location-specific. Without regional info, mis-used MV data could lead to programs being offered in areas where these savings do not exist.

Recommendations

Bowman Recommendations

- Grouped:
  - EM 3-year Plan - Approve, Vary, Reject (1, 12, 14)
  - Implementation (4, 11)
  - Target Setting (2, 3, 5, 10, 13)
  - Legislation/Regulation (6, 7, 8, 9)

Recommendation: Approve, Vary, Reject (1, 12, 14)

- EM's electricity plan shows positive PAC (3.27), positive NPV ($345 million real), limited adverse RIM impacts (0.9) and a levelized cost of 2.24 cents/kW.h. These are decent, though not ideal, long-term values.
- There is no dispute that EM's actions will result in increases in rates.
  - EM suggests LRI is *de minimus* (0.019 cents/kW.h). *[on 25 TW.h, this is $5M/yr]*
  - Daymark shows this is higher in shorter term once averaged over proper energy base (0.059 cents/kW.h over first 5 years – but years 4 and 5 will have the second iteration of EM activities as well). *[on 25 TW.h, this is $15M/yr]*
  - Bowman evidence shows that once consider how Hydro finances and amortizes costs, by year 3 the cost/rate impact could be 0.17 cents/kW.h (or higher if exports are not as highly priced as assumed). This is material – 3-4% for industrials by year 3 *[$37M/yr on 25 TW.h]*.
    - This is coarse estimate, but note that cost of program alone is approx. $150M amortized to rates at 10%/year or $15M/yr before interest. In the near-term there is no way exports will cover all lost revenue. So impact will necessarily be higher than Daymark's estimated $15M/yr due to interest and revenue impacts.

Recommendation: Approve, Vary, Reject (con't)

- As noted above re: IRP, the basic need for the power has not been established, beyond government directive.
- Without established need, there is little reason to drive rates higher. Context of Keeyask increases and low Hydro net income (limited ability to absorb EM costs) also relevant.
- **Conclusion [Recommendation 1]: The plan has not been justified in terms of need for the identified resources, nor as being cost-effective in light of potential alternatives.**
  - PUB should not Accept the plan as filed.
  - Alternatives are Recommend Approval with Amendments, or Recommend Rejection
- **Recommendation 12: For the first few EM programming cycles, consideration should be given to targeting well below the 1.5% savings target while marginal values for power are given time to increase**
- In implementation, EM should screen the activities to reduce adverse impacts on rates in the near-term (3-5 years).

Recommendation: Approve, Vary, Reject (con't)

- As noted earlier, there are some specific challenging metrics at the bundle level for Direct Install, Product Rebates and Home Renovation. Some measures within these bundles may be considerably worse.
- These bundles take 14% of EM spending to achieve 5% of EM savings.
- As an example, entirely eliminating all 3 bundles would improve metrics:
  - Reduce portfolio levelized cost from 2.24 to 2.12 cents/kW.h
  - PAC increases to 3.44 from 3.27
  - Portfolio still achieves 1.4% annual savings.
- **Recommendation 14: Reallocate program expenses away from higher cost programs. Accept somewhat lower target. If still want to achieve 1.5% target, reprioritize to more cost effective programs in any class.**
- Attractive further resources appear possible in Commercial Renovation and Industrial Custom

Recommendation: Implementation (4, 11)

- The current proceeding is to narrow to fully confirm many critical details of EM's Plan or underlying the EM economics:
  - The appropriate use of marginal values
  - The potential revisions to marginal values in the next Hydro GRA
  - Confirmation of rate pressures from Keeyask, prior to adding EM costs
  - Information on Hydro's Strategic Plan, which may materially affect and update the Resource Plan information from Hydro
- Also, there is a steep learning curve for EM to implement the programs and achieve the savings targeted. A 3-year sign off is excessive under the circumstances.
  - At the same time EM needs some certainty to operate and make commitments.
- **Recommendation 4: Approvals from the current proceeding should only address budgets on an interim basis subject to revision if new facts arise from a Manitoba Hydro GRA or other process.**

Recommendation: Implementation (con't)

- The EM economics indicate material reliance on transmission and distribution marginal values to justify program spending.
- Levelized marginal values last reviewed consisted of 75% related to generation, 10% for transmission and 15% for distribution.
- The breakdown for EM's actual programming was not provided due to confidentiality.
- At present, Manitoba Hydro allocates all DSM costs in relation to bulk power assets (e.g., generation)
- **Recommendation 11: Functionalization of EM's costs in Manitoba Hydro's future Cost of Service should be to Generation, Transmission and Distribution in proportion to the benefits relied upon by EM to justify the programs, e.g., 75% generation, 10% transmission, 15% distribution.**

Recommendation: Target Setting (2, 3, 5, 10, 13)

- The justification for EM's existence arises from the PUB's comments in NFAT regarding incomplete IRP analysis, and from the Government's intent to mitigate the impacts of rate increases and delay the point at which new major generation and transmission will be needed.
- These principles support an IRP-based approach to DSM, where the intent is to acquire new resources (generation, transmission, or distribution).
- **Recommendation 2: Explicitly indicate the EM plan is to be tested based on a resource acquisition model for on cost-effectiveness compared to other supply options.**

Recommendation: Target Setting (con't)

- **Recommendation 3: Ensure future EM plans are tested against the EM mandate (s.4(1)(c) of the Act) to "mitigate the impact of rate increases and delay the point at which capital investments in new generation and transmission" will be required.**
- **Recommendation 5: Future EM reviews should require appropriate IRP information.**
- **Recommendation 10: The resource acquisition model should support lowest cost supplies being pursued as the primary objective, regardless as to class.**
- **Recommendation 13: Future EM reviews should consider alternative levels of DM targets and their impacts (as part of IRP style analysis)**

Recommendations: Legislation/Regulations (6, 7, 8, 9)

- There is a large subjective nature to the notion of EM's contribution to many measures and savings achievements.
- For example, codes and standards savings are said to only count towards efficiency if EM makes a "material contribution" (s.8(1)(c)). This does not well represent how codes and standards are adopted.
- Similar for MH rate changes (s.8(1)(d)) or provided "operational support" (s.8(1)(b)(ii))
- These concepts of attribution appear difficult to implement and measure, and of dubious relevance so long as the savings achieved are real.
- **Recommendation 6: EM should recognize savings arising from actions taken by all complementary agencies and government efforts regardless as to EM's specific measurable contribution.**

Recommendations: Legislation/Regulations (con't)

- The most notable and cost-effective achievements in efficiency arise from relative pricing effects on customers – sometimes considered an "elasticity" effect.
- Also, the actions of EM will cause adverse impacts on rates.
- At times of the highest Hydro rate increases, the incentives for efficiency will already be built into pricing, and the ability for customers to absorb EM's cost effects will be lowest.
- EM's regulation already permit EM to claim credits from "a rate to which EM has made a material contribution" (s.8(1)(d)), but could be read as meaning a new rate design, not just a general rate increase.
- **Recommendation 7: The conservation impacts of elasticity from all Hydro rate changes should be considered in determining the level of efficiency achieved. When Hydro imposes large rate changes, EM's targets should incorporate this and permit lower levels of rate impacts from concurrent spending on DSM.**

Recommendations: Legislation/Regulations (con't)

- Among the opportunities for the PUB in the current proceeding is the ability to provide recommendations to government
- Bowman evidence addresses four areas, for clarification or improvement of framework (in addition to IRP issues noted previously).
- One area already appear to be accepted by EM under the current wording, but may benefit from clarification of the regulations:
- **Recommendation 8: Section 8 be amended to add that EM participation in the design of facilities, processes, or adoption of technologies by new industrial customers be measured against a theoretical baseline of what would have otherwise been adopted.**

Recommendations: Legislation/Regulations (con't)

- As part of implementing the IRP framework noted in previous slides, there would need to be flexibility in timing of savings to permit prioritization and analysis.
  - Ideally the targets will be adjusted to permit revisions based on IRP analysis.
- As it stands the 22.5% policy target is clearly meant as sum of 15 years of savings (1.5% per year) not adjusted for persistence or obsolescence, or compounding. Even if this 22.5% stands (which is likely also not advised if proper IRP will be undertaken) it should permit flexibility in timing.
- Also for industrial customers, achievement of savings can be very lumpy due to occasional very large measures. Also contingency effects.
- **Recommendation 9: Clarification that the 1.5% need not be achieved in full as part of each annual plan.**