MANITOBA PUBLIC UTILITIES BOARD

MANITOBA HYDRO 2023/24 & 2024/25 GRA

Direct Evidence Presentation

Kelly Derksen

On Behalf of The Consumers Coalition

June 8, 2023

Overview of Ms. Derksen's, B. Sc., CPA, CMA, Qualifications

- Over 25 Years of Hands On & Multi-Faceted Expertise in Utility Regulation & Ratemaking 1994-Current
- Centra Gas - Regulatory Coordinator/Revenue Requirement Analyst 1994 to 1999
- Manitoba Hydro – Rate Analyst/Senior Rate Analyst 1999 to 2006
- Manitoba Hydro – Manager, Gas Rates & Regulatory Affairs 2006 to 2009
- Manitoba Hydro – Manager, Cost of Service, Rates 2009 to 2017
- Independent Regulatory Consultant - BCUC, AUC, MPUB, NSUARB, NBEUB 2018-Current

Outline of Presentation

Part I –	Generally Accepted Ratemaking Principles for Rate Design Purposes underpinning Order 164/16
Part II (a) –	Anomalous Net Export Revenue for Rate Design Purposes
Part II (b) –	Policy Considerations for Rate Design Purposes
Part III –	Zone of Reasonableness for Rate Design Purposes
Part IV –	Recommendations for Rate Design Purposes
Appendix -	Cost of Service Concerns

Part I

Rate Design Through

Seminal Bonbright

Generally Accepted Ratemaking Principles underpinning

Order 164/16

Bonbright Seminal Criteria for Sound & Balanced Rate-Setting Underpinning Order 164/16

PHASE II = COST OF SERVICE

<u>Ratemaking Objective:</u>

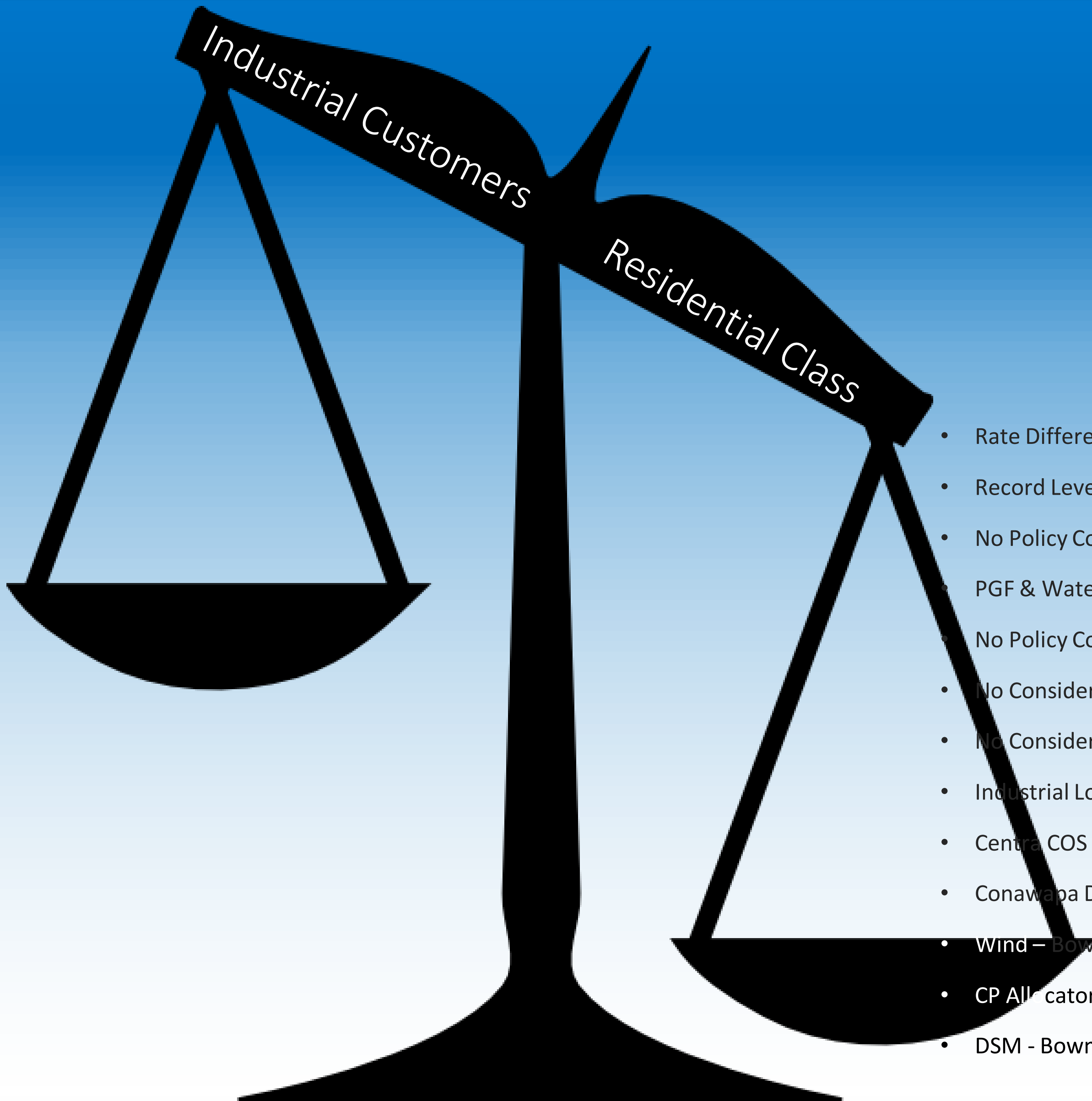
Embedded Cost Causation = **One** Consideration of **Fairness & Equity**

PHASE III = RATE DESIGN

<u>All Ratemaking Objectives:</u>

- **Fairness & Equity** – considerations other than embedded cost causation
- **Rate Stability, Predictability, Gradualism** – minimum of unexpected changes with sense of historical continuity
- **Efficiency** – Discouraging Wasteful Use
- Reflection of **Social Costs** and **Benefits**
- **Simplicity & Feasibility** of Application
- **Understandability, Public Acceptability**
- Freedom from Controversies as to **Proper Interpretation**

MH Proposals & MIPUG Proposals Result in Lack of Balance



- Rate Differentiation Ignores Order 164/16
- Record Levels of NER
- No Policy Consideration of RCC prior to NER
- PGF & Water Rental Fee Reduction Windfall
- No Policy Consideration of Uniform Rates (conflicts with 164/16)
- No Consideration of Marginal Cost
- No Consideration of Record Level increase of G&T
- Industrial Load Loss
- Centra COS – Order 109/22
- Conawapa Deferral Account – MIPUG
- Wind – Bowman
- CP Allocator – Bowman
- DSM - Bowman

Consistent PUB Policy Direction in Orders 164/16, 59/18, 109/22 - Found Ratemaking Principles Important for Rate Design Purposes

- “The Board finds that **other** ratemaking principles for setting **just and reasonable** rates **should be** considered in a GRA, and **not a** cost-of-service process. A **COSS neither** determines nor changes rates, but **may assist** in rate setting and in evaluating whether customer classes pay their appropriate share of costs through rates.” (Order 164/16, pg. 6)
- “The Board finds that… goals of rate **stability** and **gradualism**, **fairness** and **equity**, **efficiency**, **simplicity**, and **competitiveness** of rates **should be** considered in a GRA…While ratemaking **principles are important** in the overall process of setting rates, these concepts are issues for rate design… Likewise, consideration of RCC ratios is a rate design matter that should be addressed in the rate-setting phase of a GRA. (Order 164/16, pg. 27)

Consistent PUB Policy in Orders 164/16, 59/18 & 109/22 - There are Many Factors in Rate Differentiation

- In evaluating class RCCs, **ratemaking principles** may justify accepting RCCs that are **outside** the ZOR (Order 59/18, pg. 197)

- The Board is not required **to focus on pure cost causation** in approving a fair rate, …there is no requirement for the PUB to rely on a COSS to fix a just and reasonable rate, and that such a study is but one of the elements that the PUB could or could not rely upon in arriving at its order. (Order 164/16, pgs. 16-17)

- Cost of Service Study is a tool that can be used in ratemaking….While the **cost of service should not necessarily** be the **overriding factor** in designing rates, it is consistent with the ratemaking principle of fairness to consider the output of the Cost-of-Service Study. (Order 59/18, pg. 198)

- A cost-of-service study is just **one factor** the Board may consider in a rate hearing. It is **informative**, but it is **not determinative**. **Equity** and **fairness** considerations, as well as the **public interest**, **are important** considerations in a rate hearing and the Board also takes them into account in setting just and reasonable rates. (109/22, pg. 33)

Consistent PUB Policy - PUB Prepared to Accept RCCs Outside of ZOR

- In evaluating class Revenue to Cost Coverage ratios, the Board does not accept that the zone of reasonableness should be expanded to 90% to 110% and finds the zone of reasonableness should remain at 95% to 105%. While **rate-making principles may justify accepting Revenue to Cost Coverage ratios that are outside of the zone**, those principles do not support broadening the zone itself. A 95% to 105% range recognizes the sophistication of Manitoba Hydro's Cost of Service Study and departure from this range has not been justified. (59/18, pg. 197)
- A **RCC** ratio **outside** of the ZOR is **one factor** to be considered in the possible differentiation of rate increases. (59/18, pg. 287)

MH Rate Design Objectives Results in Ascribing 100% to Cost Causation

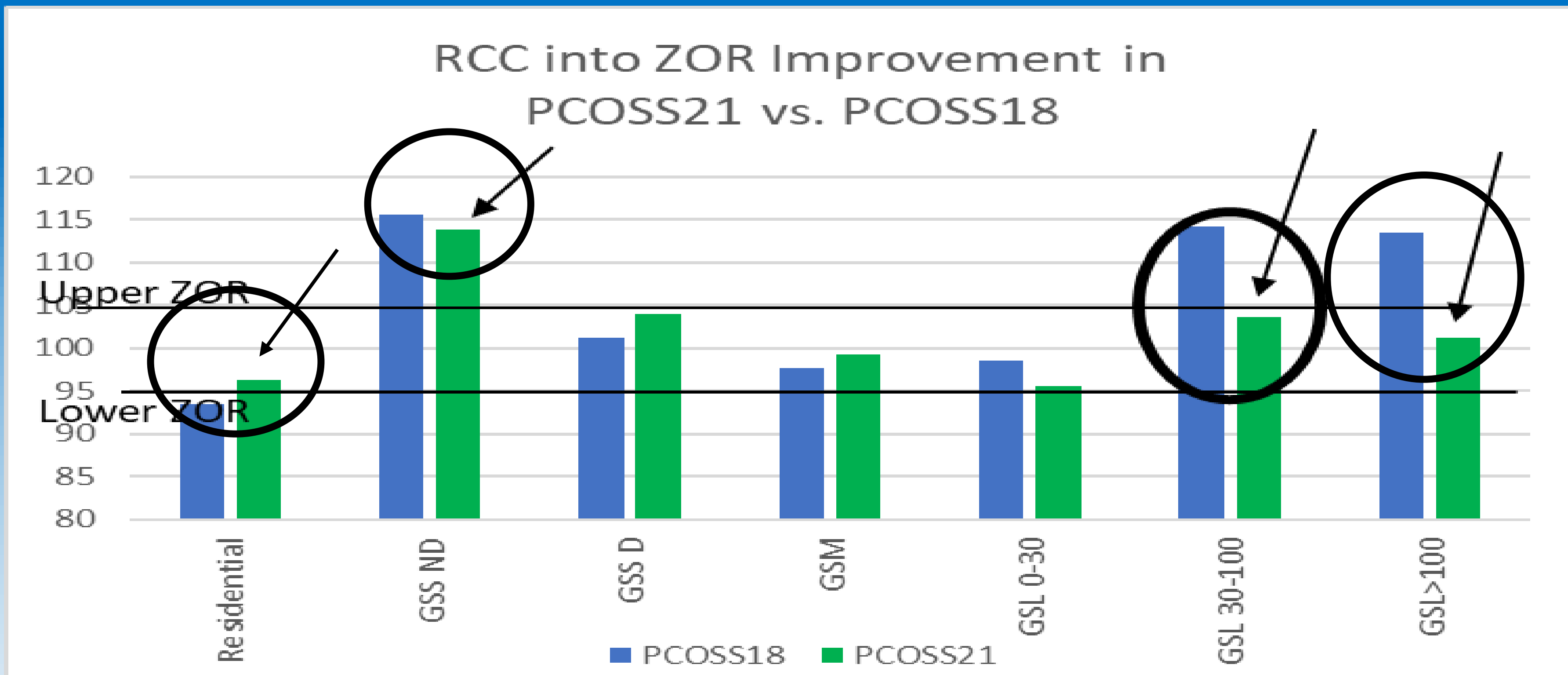
MH asserts it has considered other Ratemaking Objectives:

- Reflect Cost of Service – recover Rev Req & Target 95%-105%
- Stability – Importance to customer of stable/predictable bills
- Flexibility – Ability for MH to respond to future changes
- Efficiency – Considers Embedded Cost (not marginal cost)
- Affordability – Considers Magnitude of Bill Impacts

- Analysis concludes that each MH objective = a re-statement of cost causation in a different manner
  - **Cost to Serve objective** had the most relevance to rate differentiation, with additional consideration given to the objectives of Efficiency and Stability (CC/MH I – 142 h)
  - **Efficiency** – rate differentiation = PCOSS (**embedded cost causation**) (Tab 8, pg 14)
  - **Stability** – implement PCOSS (**embedded cost causation**) over time (Tab 8, pg 14)
- MH Proposals Fail to Consider Order 164/16 other than Embedded Cost to Serve Cost Causation
- Other Intervenors also Ignore Ratemaking Objectives other than Cost Causation

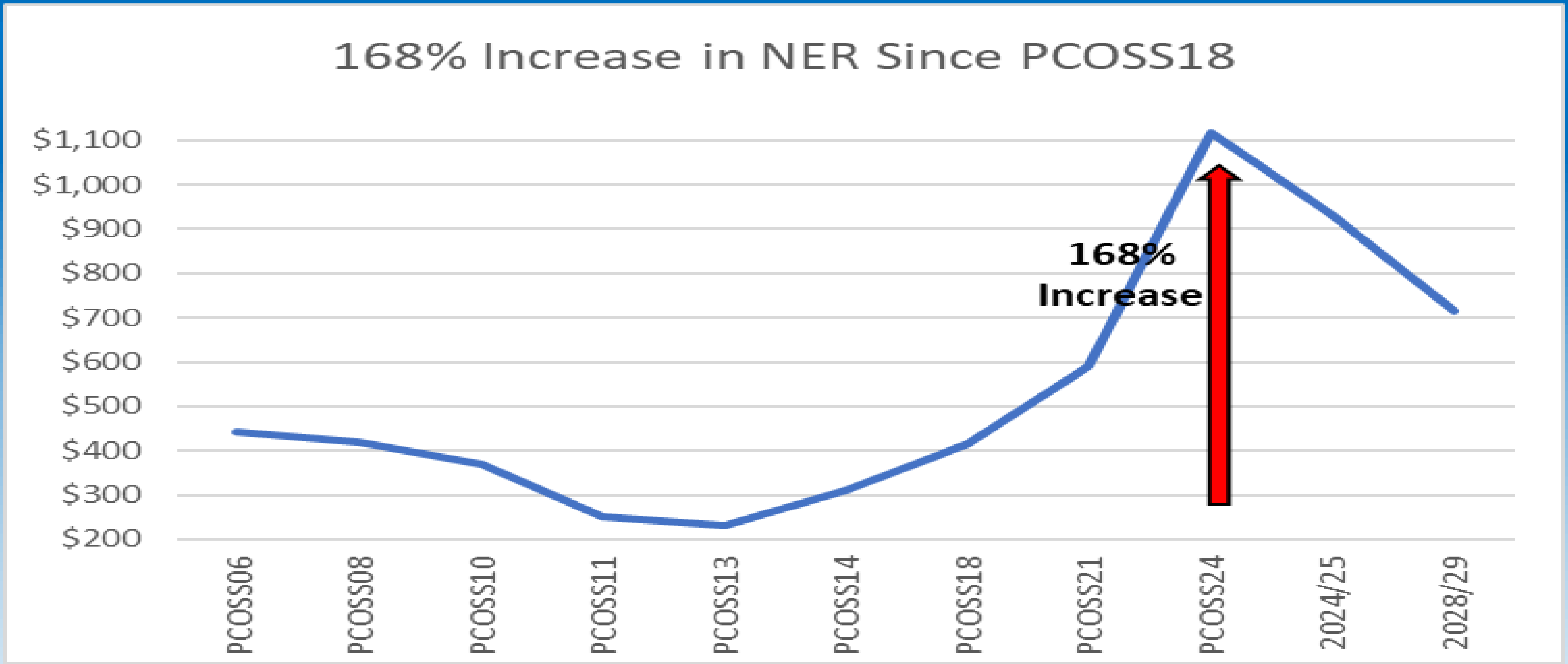
Part II (a)
Normalizing
Anomalous Net Export Revenue
and Uniform Rates –
for Rate Design Purposes

All Classes in ZOR in PCOSS21 and Improvement for GSS-ND, as Expected



- As expected by MH as part of its 2019/20 Rate Application, most classes were expected to be in ZOR
- PCOSS21 results in All Classes in the ZOR, except for GSS-ND

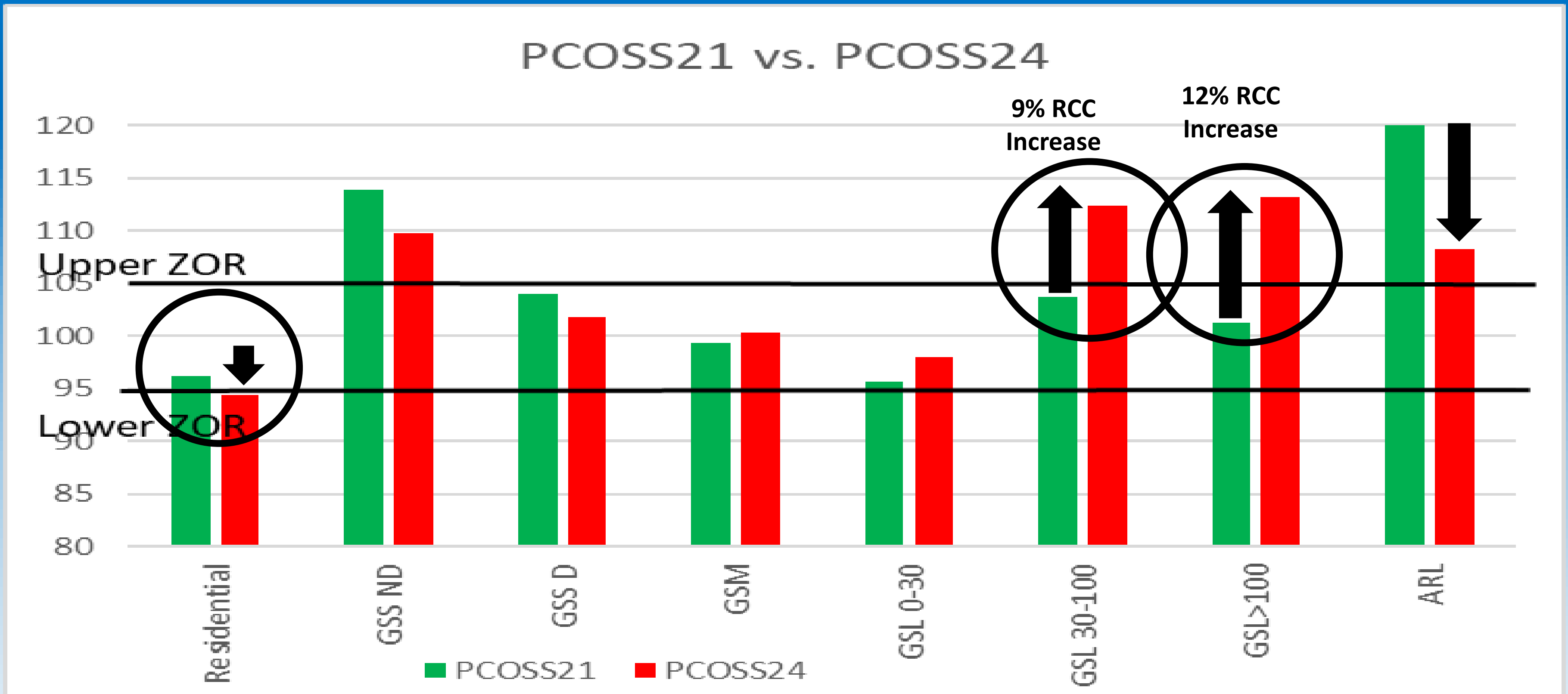
RCCs Reflect Anomalous Record-Level of NER



- Record Levels of Net Export Revenue impacting class RCCs
- Record Levels of NER sufficient enough to offset:
  - **38%** of total cost in 2023/24:
  - **48%** of allocated cost to GSL>100kV;
  - **35%** of allocated cost to the Residentials

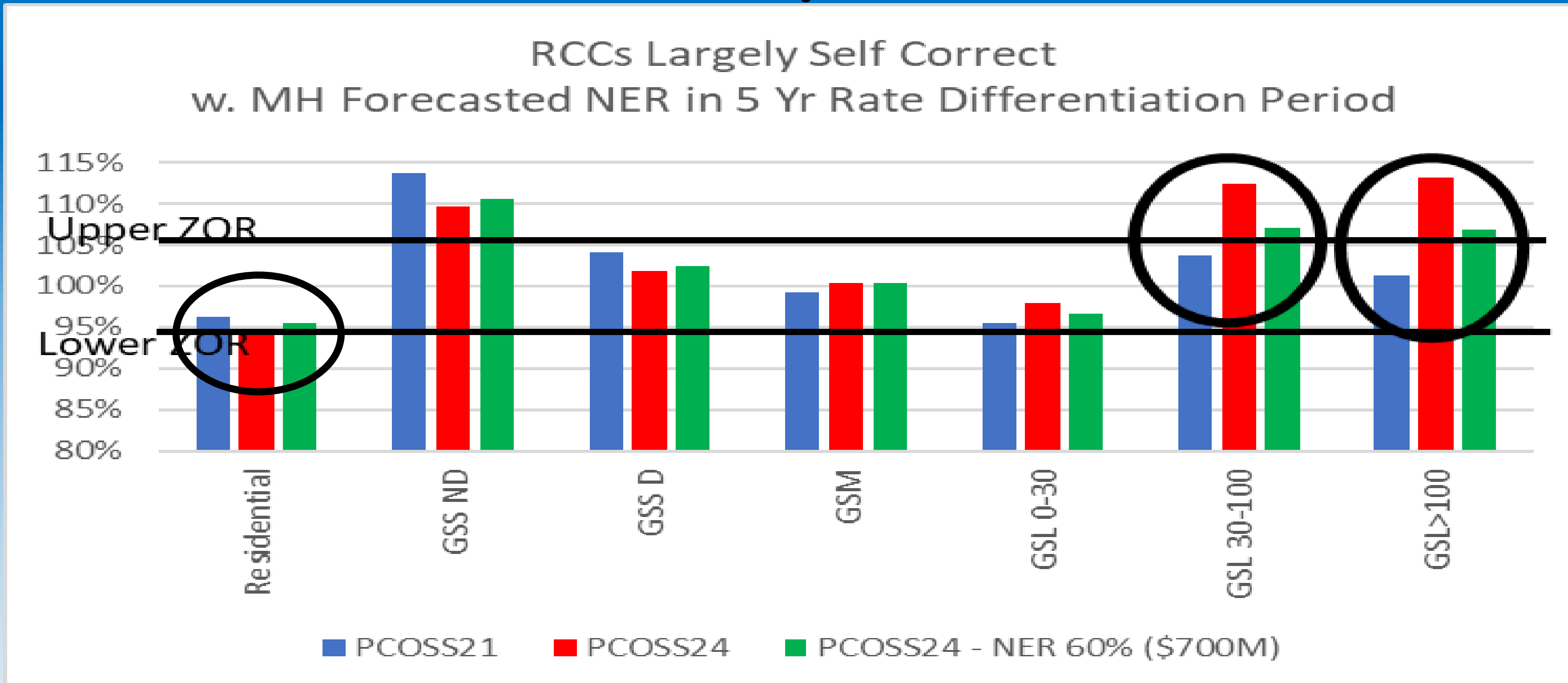
(Sources: PCOSS06 pg. 15 Gross Exports less Variable, PCOSS08 pg. 11 Gross less Purchased Power; PCOSS10 pg. 3 Gross Less AEF & Purchased Power; PCOSS11 pg. 3 Gross Less AEF & Purchased Power; PCOSS13 pg. 7 Gross Exports Less AEF & Purchased Power; PCOSS14 pg. 20 Gross less AEF & Purchased Power; PCOSS18, pg. 19; PCOSS21 pg. 61)

Dramatic RCC Volatility from Anomalous NER



- The RCCs for the largest GSL classes are highly sensitive to changes in NER and skew results:
  - A 9% RCC increase for GSL 30-100kV due to NER
  - A 12% RCC increase for GSL>100kV due to NER
  - A reduction to Residential RCC

PCOSS24 RCC Will Largely Self Correct in Next 5 Years in Absence of Any Rate Differentiation



- MH's evidence is that export revenue is expected to decline within its 5-year rate differentiation period
- It is expected that most classes will be in or near the ZOR, but for the GSS-ND class in absence of any rate differentiation
- The solution is to normalize NER for Rate Design purposes

Source: PCOSS24 – 60% NER: Coalition/MH I-155, pg. 11

MH Rate Differentiation Fails to Consider Uniform Rates Policy As Directed In Order 164/16

Manitoba Hydro

Manitoba Hydro 2015 Cost of Service Methodology Review
MIPUG/MH-I-11a-c

Manitoba Hydro
Prospective Cost Of Service Study
March 31, 2014
Revenue Cost Coverage Analysis
Model of MIPUG/MH-11
SUMMARY

Customer Class	Total Cost ($000)	Class Revenue ($000)	Net Export Revenue ($000)	Total Revenue ($000)	RCC % Current Rates	Cost less NER	Change Cost less NER	Change in RCC	Change in NER
Residential	629,213	567,599	49,292	616,891	98.0%	579,921	(10,113.4)	-1.8%	
General Service - Small Non Demand	132,465	133,251	10,087	143,338	108.2%	122,378	(2,069.6)	0.2%	
General Service - Small Demand	138,205	135,647	10,508	146,156	105.8%	127,697	(2,156.0)	1.3%	
General Service - Medium	200,142	186,756	15,337	202,092	101.0%	184,806	(3,146.6)	1.6%	
General Service - Large 0 - 30kV	99,706	84,956	7,622	92,578	92.9%	92,085	(1,563.8)	1.6%	
General Service - Large 30-100kV*	61,612	57,808	4,789	62,597	101.6%	56,822	(982.7)	1.6%	
General Service - Large >100kV*	204,538	189,258	15,745	205,002	100.2%	188,793	(3,230.4)	1.6%	
*Includes Curtailment Customers									
SEP	968	826	-	826	85.4%	968	-	0.0%	
Area & Roadway Lighting	21,997	21,386	528	21,913	99.6%	21,469	(108.3)	-0.6%	
Total General Consumers	1,488,846	1,377,487	113,908	1,491,395	100.2%	1,374,938	(23,370.7)	0.0%	
Diesel	9,948	6,612	788	7,399	74.4%	9,160	(161.6)	1.6%	
Export	230,538	345,233	(114,696)	230,538	100.0%				23,532.3
Total System	1,729,332	1,729,332	-	1,729,332	100.0%				

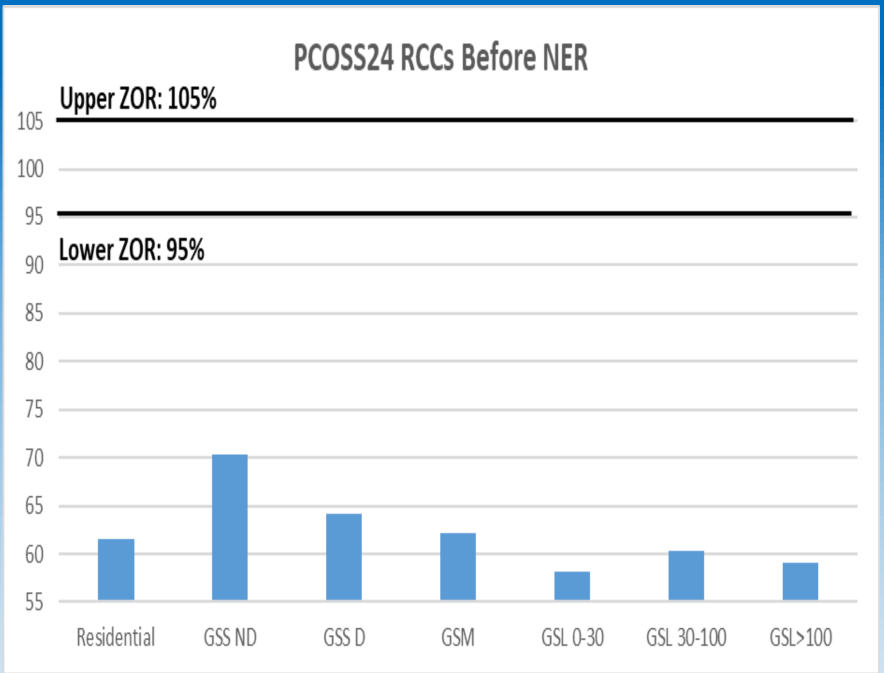
- The Board's view is that the **URA** is a matter of **Policy** and that the costs of the URA are caused by policy, rather than energy, demand, cust numbers (pg. 41)
- Impacts of the Board's COS treatment of uniform rates on RCC are a consideration in RD, not cost of service (pg. 41)
- Solution – normalize URA for Rate Design purposes

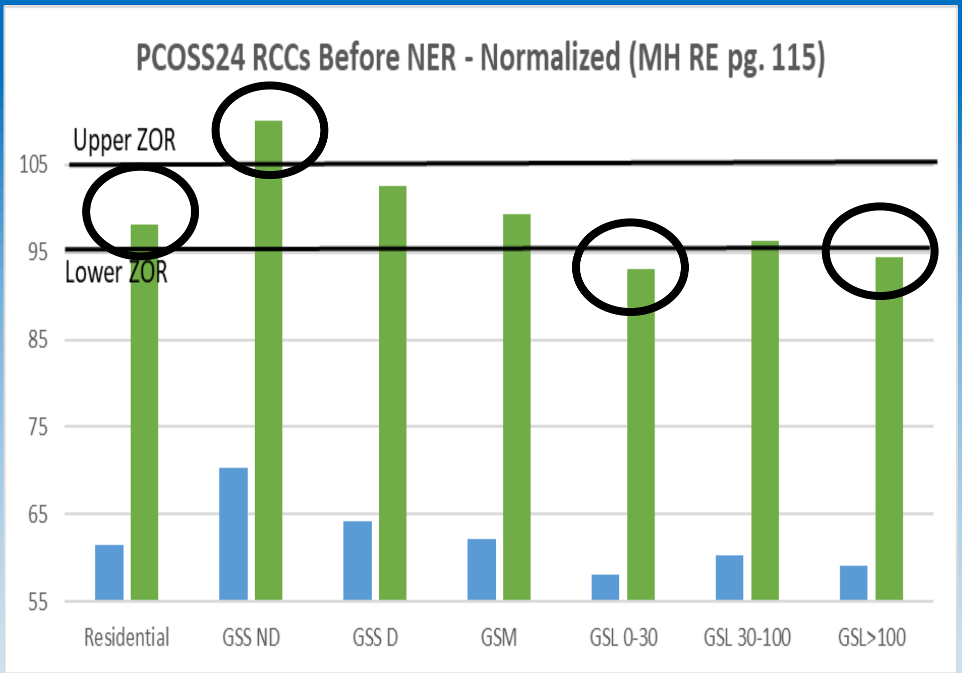
Source: 2016 COS Review MIPUG/MH I- 11

Part II (b)

Other Policy Considerations (Qualitative) for Rate Design Purposes

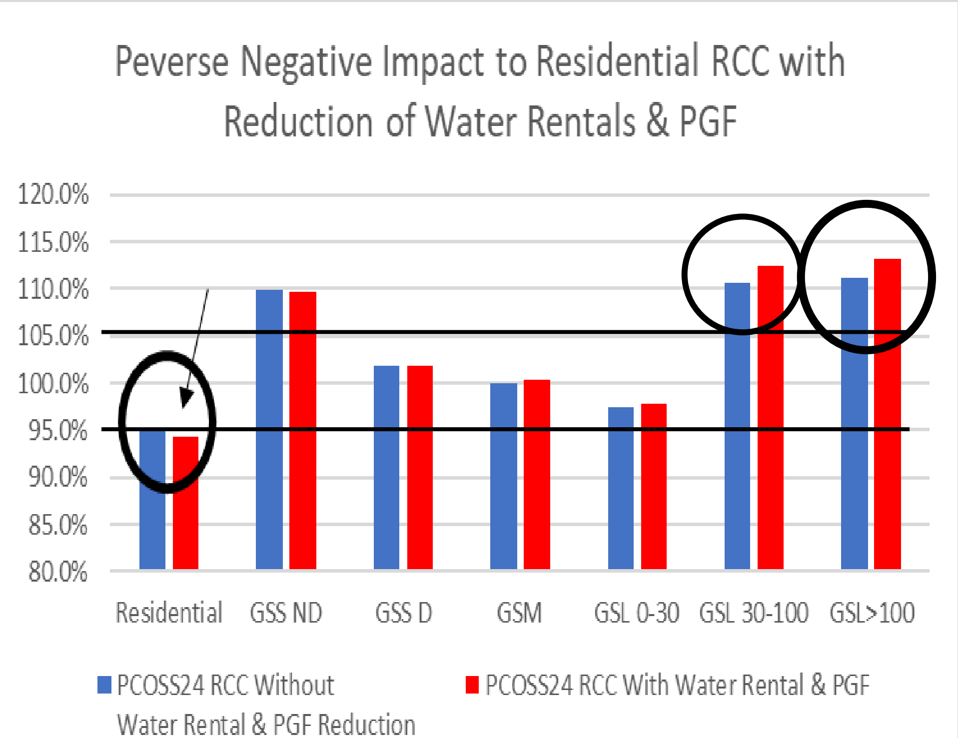
RCC Before NER - An Important RCC Interpretation Tool for Rate Design



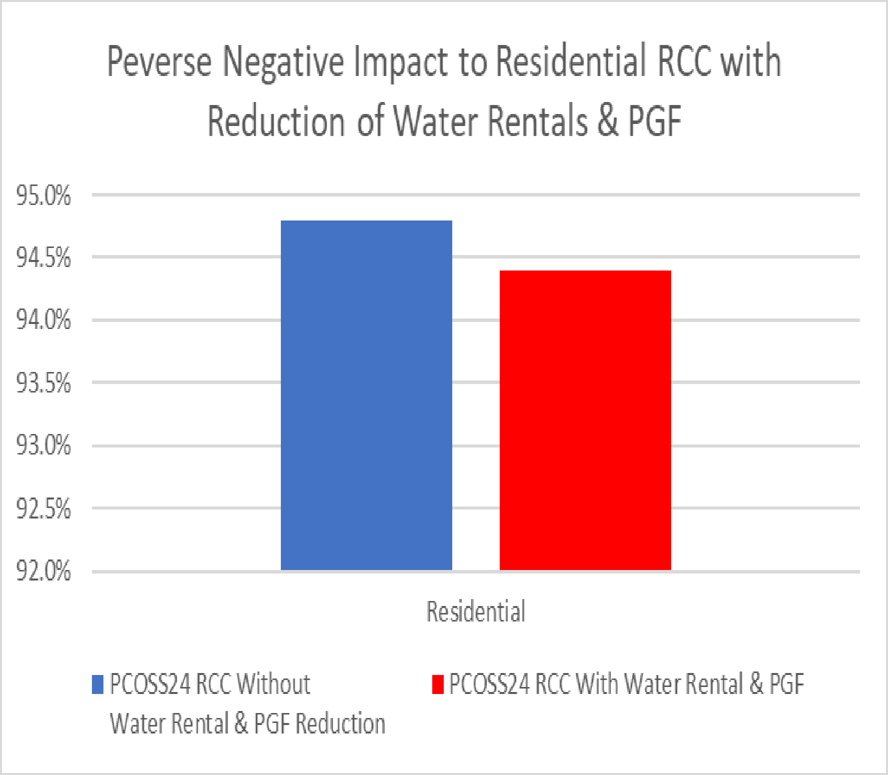


- MH argues that RCC prior to NER does not reflect cost causation, therefore it cannot represent a fair depiction of RCC impacts
- However, Order 164/16 made it clear repeatedly that RCCs are to be evaluated considering other Ratemaking Objectives than pure embedded cost causation
- Order 164/16 found that Fairness & Equity related to NER are goals to be considered in Rate Design (pg. 37)
- Order 164/16 did not find that RCCs before NER were to be ignored as part of the evaluation of determining just and reasonable rates

Spurious Residential RCC Impact fm Gov Payment Reduction – An Appropriate Policy Consideration for Rate Design Purposes Consistent with Spirit & Intent of Order 164/16

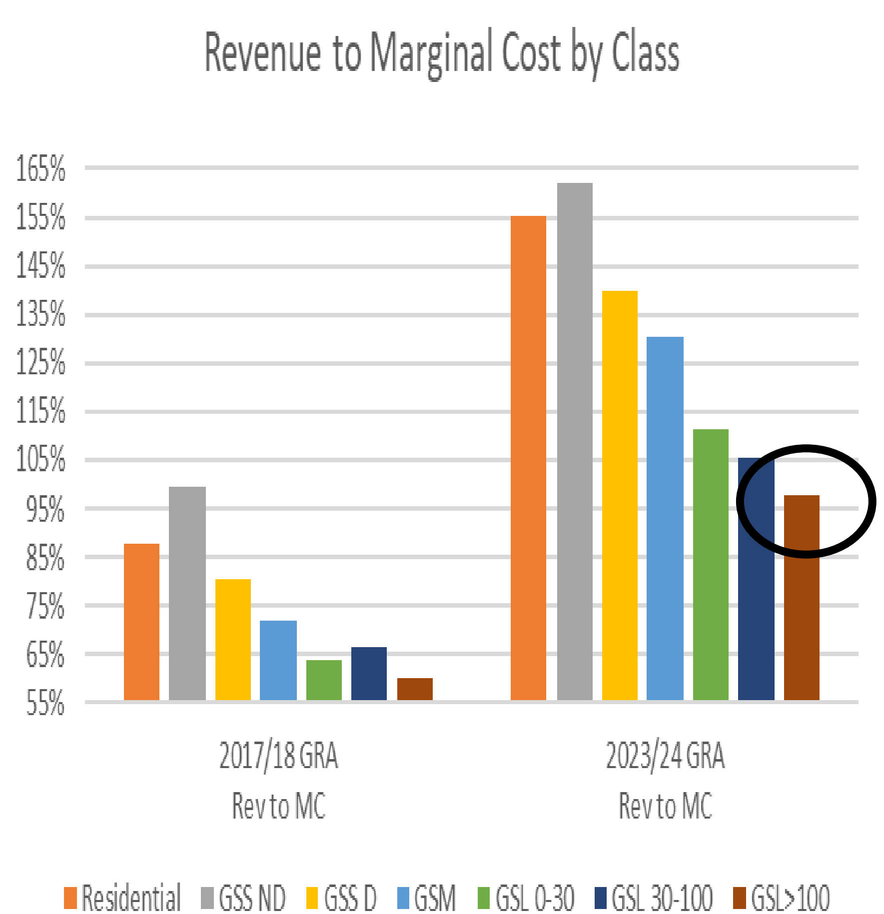


Source: Coalition/MH I-138 pg 8



- MH's assertion that Water Rentals & PGF have been treated consistent with past practice misses the mark – it is not about COS, its about assessing the outcome from a Policy perspective for Rate Design purposes and just and reasonable rates
  - This is the spirit of Order 164/16 that MH fails to address

Marginal Cost Appropriately Considered for Rate Design Purposes Consistent with Order 164/16



Source: Coalition/MH II – 57 d

- The Board finds that marginal cost considerations are **more appropriately addressed** in the rate design stage of ratemaking and not the COSS stage.

  As articulated in the Principles section of this Order, cost causation underpins the COSS methodology, without including other ratemaking goals. **Equity and efficiency** are ratemaking goals **that should** be addressed in a rate-setting process such as a GRA. (Order 164/16, pg. 53)

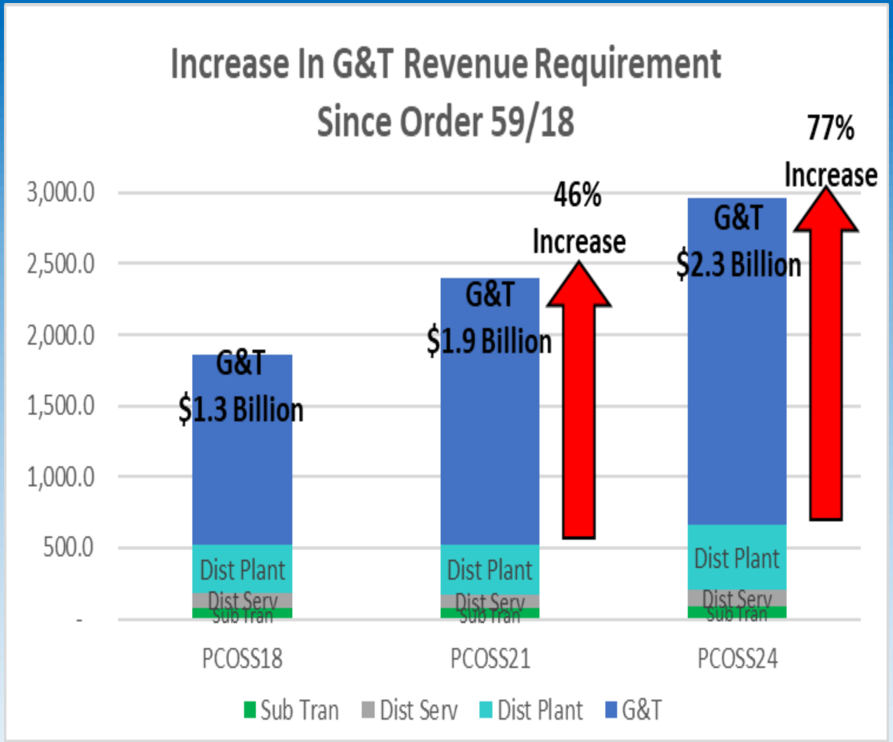
- Order 164/16 concludes that Marginal Cost considerations appropriately addressed for Rate Design purposes

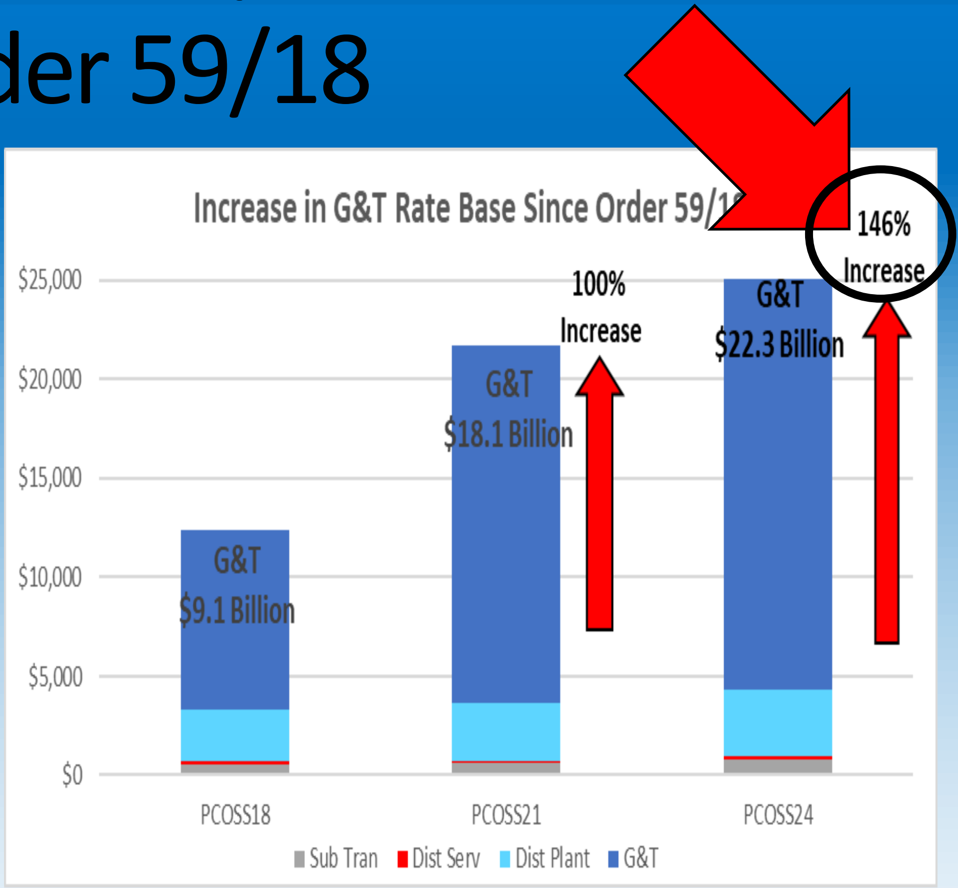
- MH Rate Differentiation fails to consider Marginal Cost conflicting with Order 164/16

Part III

Zone of Reasonableness (ZOR) for Rate Design Purposes

G&T Common Cost Increased Nearly 150% Or $13 Billion From $9.1 - $22.3 Billion Since Order 59/18





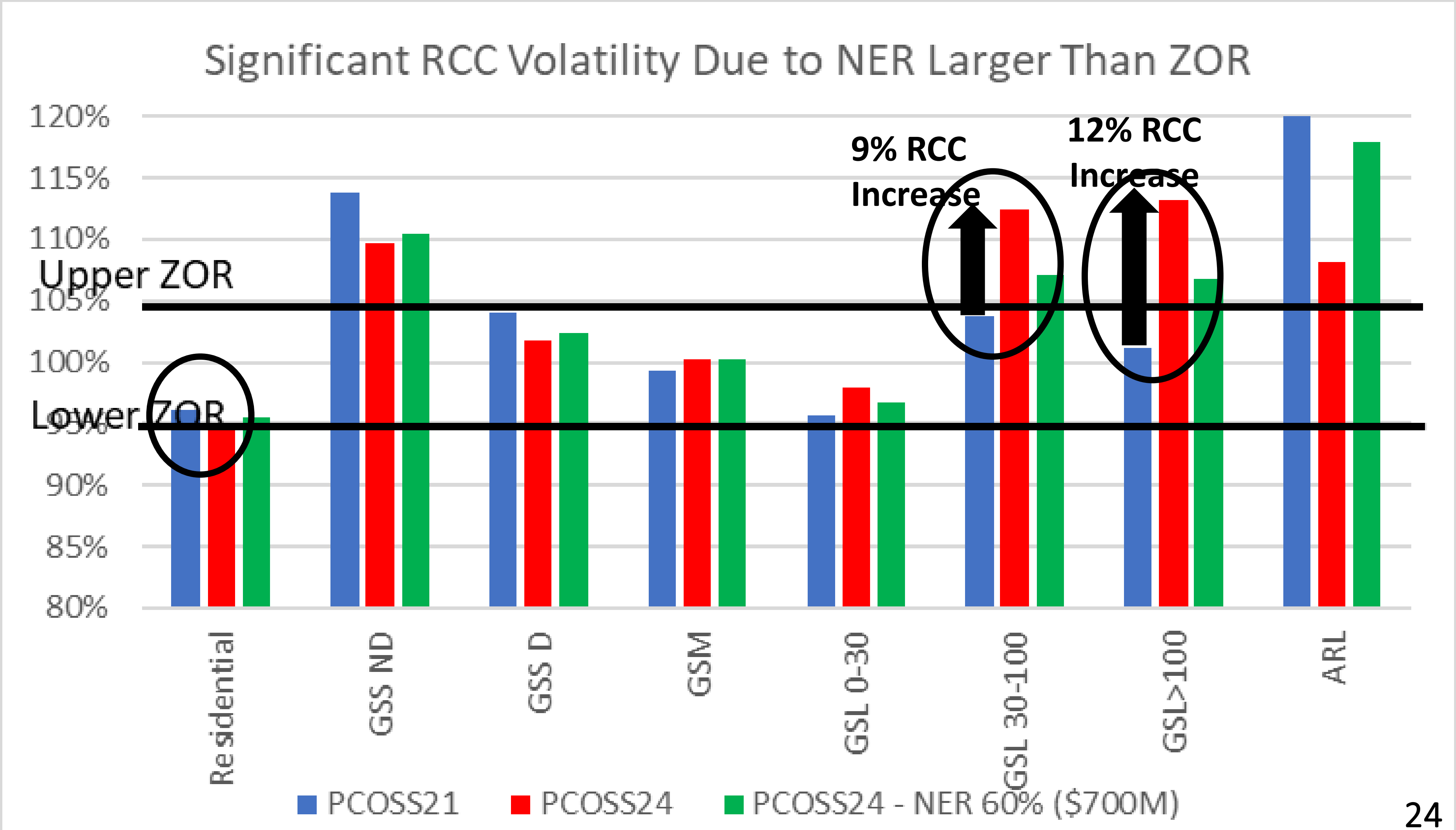
- G&T – previously approximately 73% of total investment (Rate Base), currently approximately 84%
- The most judgemental aspect of MH's cost of service is allocating joint & common costs represented most significantly by Generation & Transmission that have more than doubled

Source: PCOSS21 pg 4&5; PCOSS24 A3 Total Cost minus Sub Tran, Dist Plant, Dist Service & PCOSS24 C1

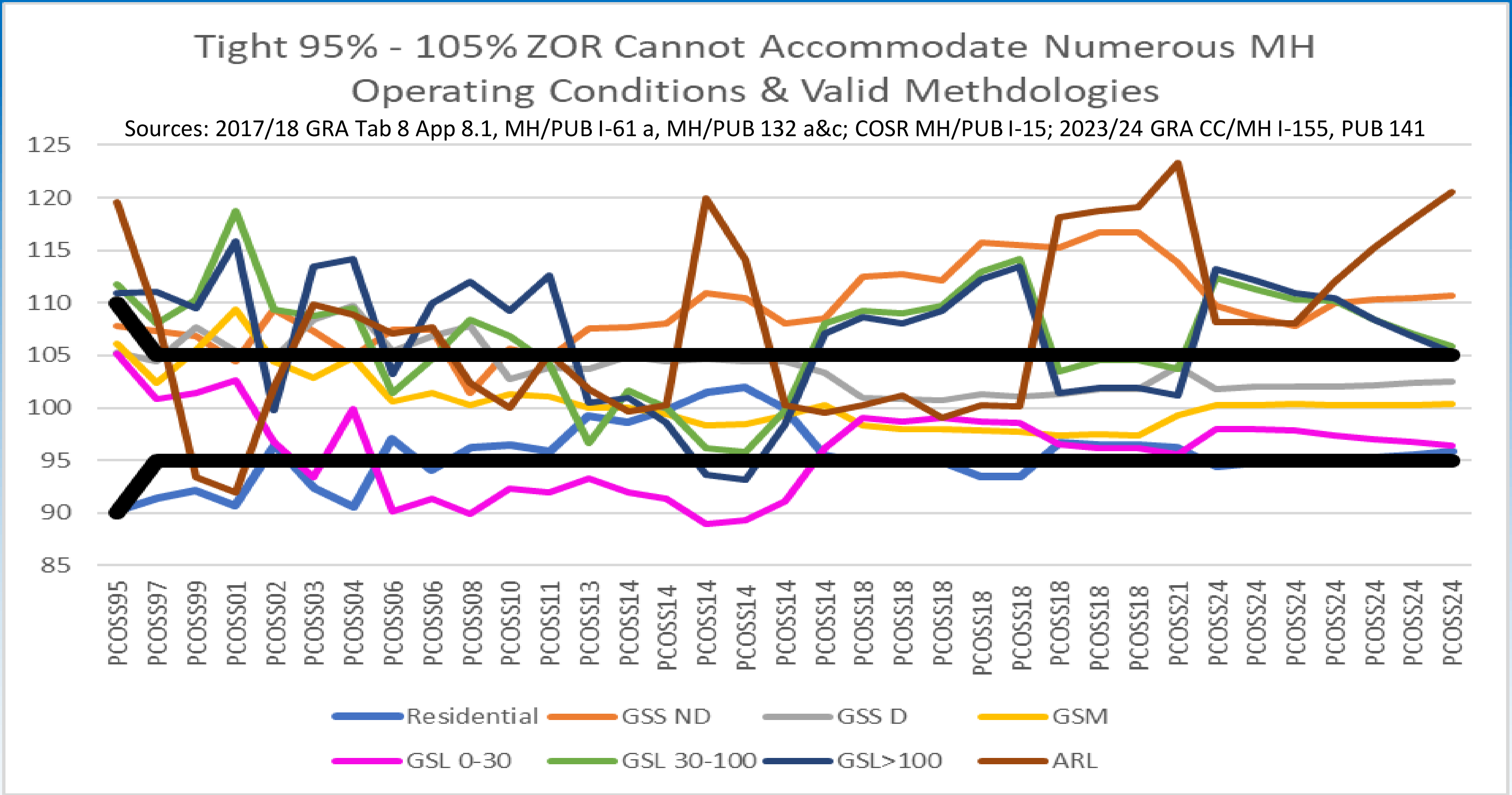
The Most Judgmental Aspect of a Vertically Integrated Electric Utility Cost Allocation - Associated with Joint/Common Cost that has Increased 150% or $13 Billion since Order 59/18

- Joint/Common cost definition:
  - Joint costs occur when one process results in output of several services
  - Common costs arise when **one process** results in **several services**, but **expense can't be attributed** to any services directly
- Majority of MH costs are shared i.e. joint & common and have increased significantly since Order 59/18
  - Generation & Transmission investment have increased nearly 150% or $13 Billion
  - Net Export Revenue has increased nearly 170% since PCOSS18 or $600 Million

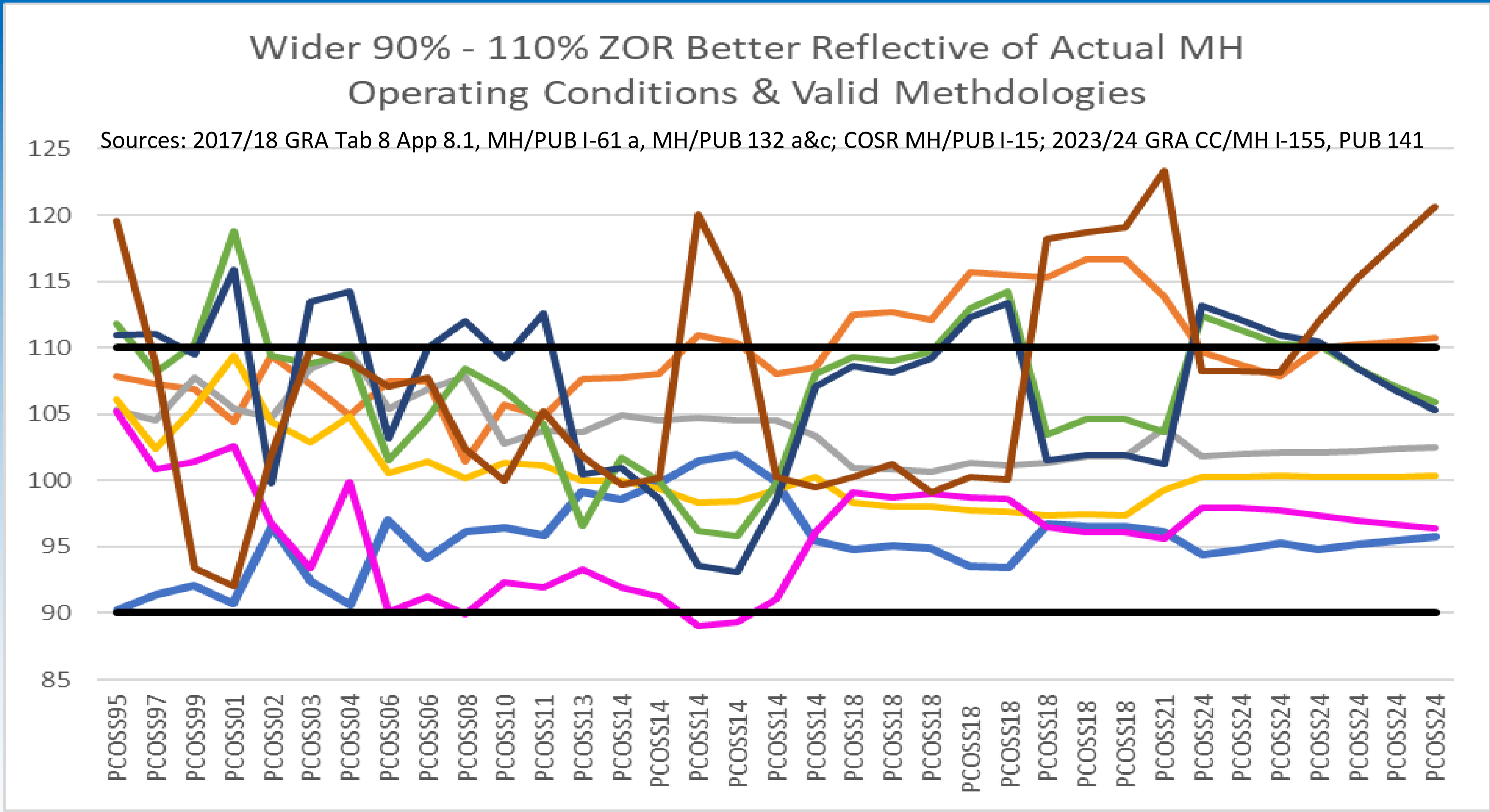
RCC for GSL>100kV Increased 12% Due to NER Between 2021 & 2024



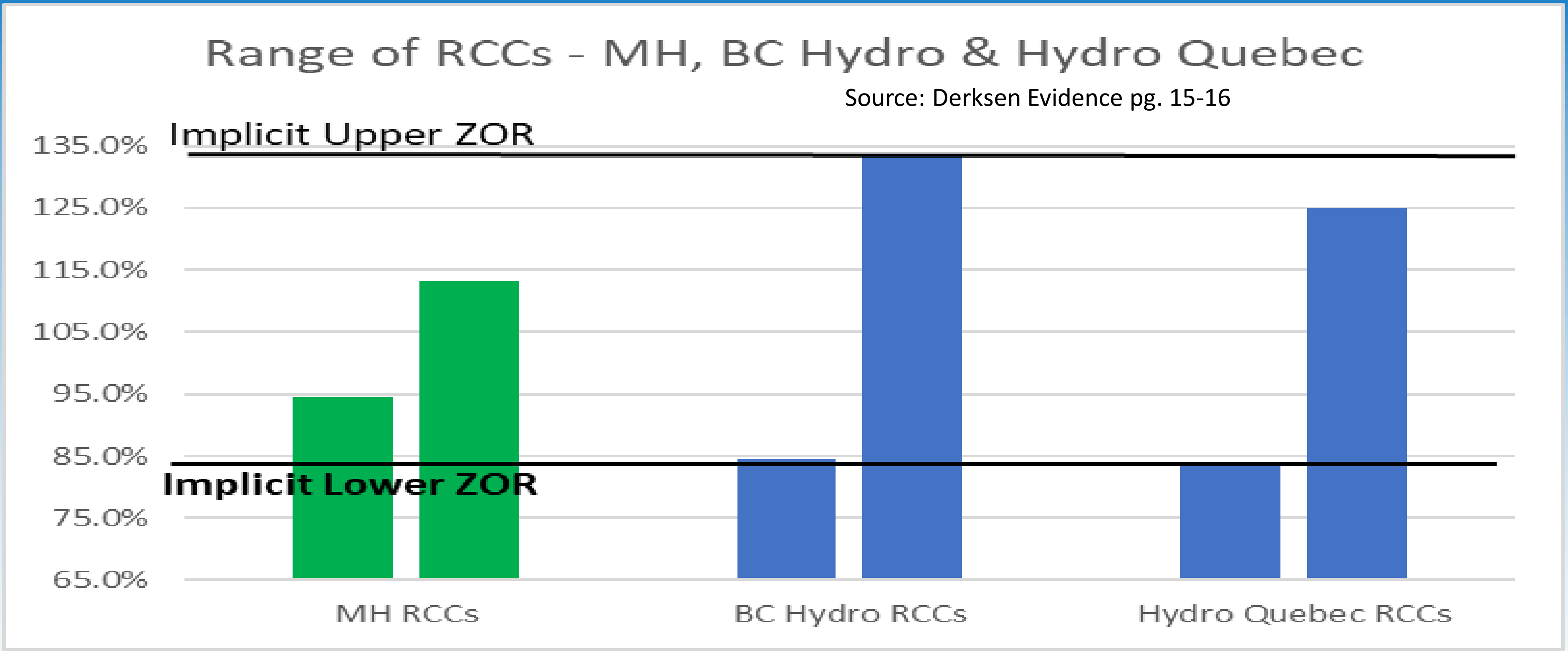
Tight 95% - 105% ZOR Cannot Accommodate Numerous MH Conditions



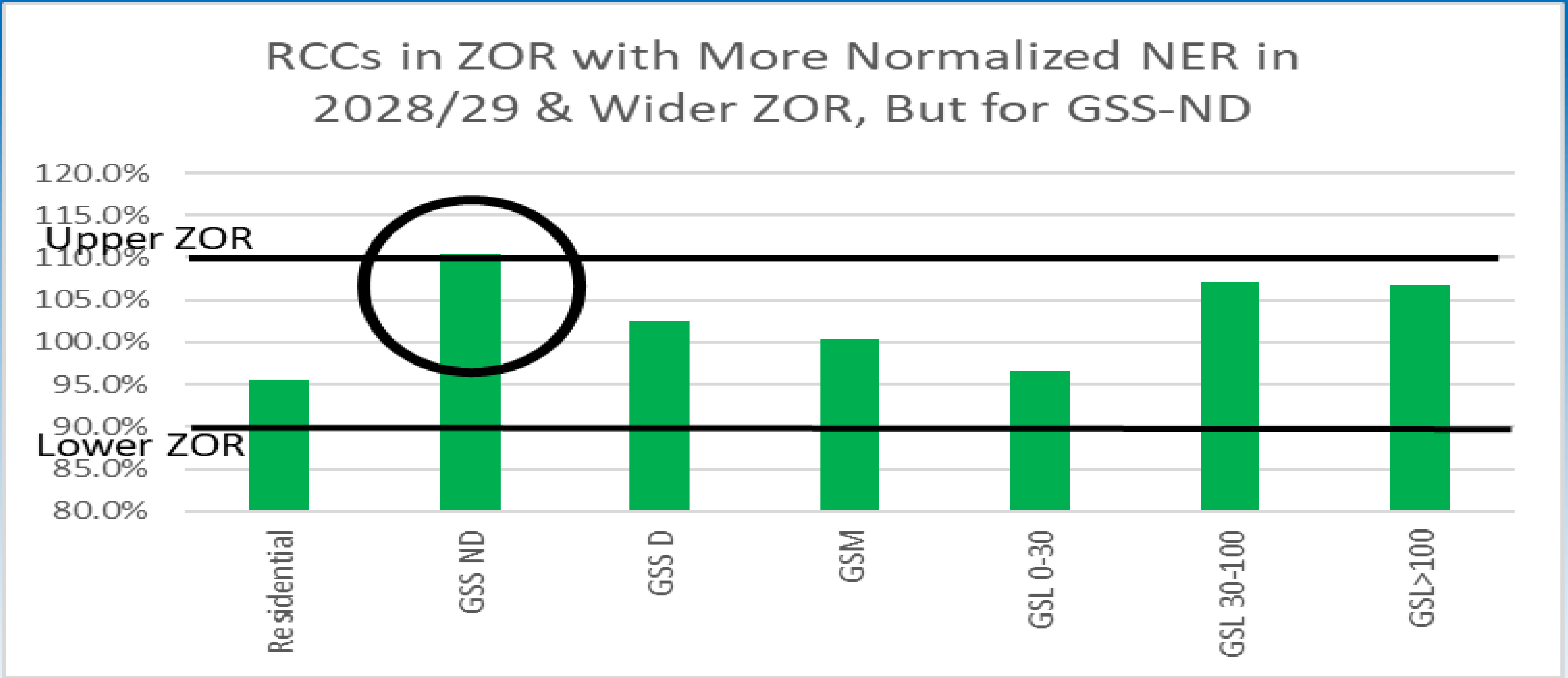
An Expanded ZOR to 90% - 110% Better Accommodates Wide Variety of MH Operating Conditions



Benchmarks of BC Hydro & Hydro Quebec Suggest MH RCCs in PCOSS24 Highly Favourable



An Expanded ZOR to 90% - 110% Better Accommodates Wide Variety of MH Operating Conditions



- Confirms that GSS ND Still Outside ZOR Requiring Below Average Rate Increase

Part IV

Recommendations for Rate Design Purposes

Rate Setting
Through Fundamentals & Balance

Application of Ratemaking Principles for Rate Design Purposes as per the PUB's Policy in Order 164/16 Concludes that:

1. Across-the-Board Rate Increase, if increase approved, to all classes except GSS-ND
   - Normalization of NER & Uniform Rates for Rate Design Purposes quantitatively supported
2. Preference is ZOR Expansion to 90% - 110% and is Recommended
   - Addresses MH Flexibility Objective Desire
3. If ZOR Expansion not preferable to PUB
   - Normalize NER & Uniform Rates for Rate Design Purposes
   - Qualitatively Consider RCC Excluding NER, Water Rentals & PGF Reduction, Marginal Cost each GRA

Appendices

COS – Top 50 Winter CP

- MIPUG recommends a narrower definition of coincident peak (CP) for allocating demand-related costs - a single hour CP (pg. 53)
- Currently, MH allocates demand-related costs on a 50-winter hour CP, averaged over 8 years.
- Interestingly, MIPUG **never defines** what this narrower CP definition would be applied to
- It is **implied** it should be applied to networked Transmission, as MIPUG references the recent Centra COS regarding transmission peak, but curiously MIPUG never states this.
- It is anticipated that MIPUG is **actually recommending** a 1-CP be applied **to all** demand-related costs – **Generation, Bipoles, US Transmission, AC Transmission** and not just AC Transmission as implied in Mr. Bowman's evidence

COS – Top 50 Winter CP

- Broadness of number of hours (i.e Top 50 Winter, averaged over 8 years) intended to recognize the integrated and coordinated planning of G&T
- I agree with MH's consultant, CA, that it's common that broader range of peak demands is used to allocated Transmission investment (CA, Sept 9, pg. 736-738)
- Not unreasonable to recommend a review given length of time since last review. However, if such a review were to be undertaken, consideration in the assignment of capacity cost to hours requires evaluation of:
  - the statistical distribution of loads (including Loss of Load Probability);
  - G&T planning criteria;
  - the risk and variation of loads and how the system behaves with supply available with respect to time;
  - how broadly or narrowly to assign capacity cost to hours
  - consideration of "over investment" given that on a least-cost discounted basis prospectively, total costs are minimized
  - that it is not only high loads, but also available system resources, that could affect which hours are the critical hours in which capacity resources are most constrained. (CA, Sept 9, pg. 737)
  - significant influence of exports in planning AC transmission
  - freed capacity made available by low load factor customers such as Residentials to enable exports both daily and seasonally, thus a possible expansion of the top 50 winter CP hours to also include summer demand

- Alternately, if narrower view of demand allocator viewed appropriate, it is recommended MH classify AC Transmission system on the same basis, System Load Factor as Generation (Bipoles & US Transmission). Such an alternative would at least capture the broader cost implications of the entirety of the system i.e. MH Transmission provides energy & reliability benefits on an integrated basis and appropriately viewed as a single function

COS – Top 50 Winter CP

- MIPUG appears to be advocating for an even more reliable transmission system than exists today. That kind of reliability comes at a cost
- Conversely, Residential customers, appear satisfied with the reliability of MH system.
- MIPUG advocating for more transmission investment on one hand, on other, MIPUG recommending narrower definition of CP allocator = pushing increased transmission investment costs they are advocating for but having Residentials pay a greater portion of it.
- I am comfortable and agree conceptually with the broader allocator AC Transmission given alternatives. On this basis, it is unclear a review would generate a superior outcome worthy of the cost incurrence.
- Recommendation to very narrowly define CP, should be rejected:
    - Fails to consider the integrated nature of and coordinated planning of MH's generation and transmission system
    - Incohesive with the broader considerations of cost allocation underpinning MH's current COS methodology
    - Would unwind much of Order 164/16

COS – DSM

- MIPUG is proposing a COS methodology change to functionalize DSM 75% to Generation, 10% to Transmission; 15% to Distribution (pg. 52)

- Current 100% DSM functionalized to Generation directed in Order 164/16.

- Recent Centra Order 109/22:

  "When the Board ordered electric DSM to be functionalized as Generation in Order 164/16 and allocated to customer classes on the same basis as other generation costs, it did so based on the finding that **DSM** was a **system resource** that can be used to **avoid** electricity **generation costs**. When a Manitoba Hydro customer class reduces its electricity consumption through DSM, it reduces the need for generation, either freeing up electricity for export or deferring the investment in new generation assets." (pg. 75)

- Order 164/16 consistent with over-arching intent/role of electric DSM (i) to meet the energy needs of the province in the most economic and sustainable manner (major generation and transmission) and (ii) to assist customers with managing their electric bills

MIPUG's arguments:

- The fact that EM now delivers DSM is a red herring (Bowman admits in MH I-4)
- MH has quantified the marginal cost benefits of DSM T&D is also a red herring (Mr. Bowman admits in MH I-4)
- Mr. Bowman claims the PUB found in EM Report that "future transmission and distribution investments" are deferred. In fact, the Board did not provide any findings on the deferral of future transmission and distribution requirements, it was simply re-iterating a perspective of Mr. Harper from the 2016 COSR as part of the background (EM Report, pg.65 – are not PUB findings)

COS – Wind

Mr. Bowman recommends Wind be classified to demand and energy, rather than on energy only: (pg. 48):

- MH states that wind generation has capacity value of 20%
- The facts today are clearly no longer consistent with the Board's findings that wind is an energy-only resource flowing from Order 164/16
- That other electric utilities classify wind to both energy and demand
- Subsequent to Order 164/16, MH revisited the classification of wind. In Order 59/18 the Board found **no adjustment is needed** to the classification of wind given:
  - The **additional complexity** to the COS methodology with **minimal benefit**.
  - Classifying wind as **100% energy is consistent** with how **energy is procured and purchased** through suppliers.
  - That MH does **not invest** in wind assets **to serve peak** demand and a continued classification of wind as 100% energy is supportable. (Order 59/18, pg. 187).