RESPONSE TO DIRECTIVE 6 OF Order 150/08
Operating & Administrative Expense Benchmarking

In Order 150/08, the Public Utilities Board ("PUB") directed Manitoba Hydro to undertake an independent benchmarking study of Operating & Administrative key performance metrics and to provide the PUB with an outline of the scope of the study in advance of it being undertaken. Specifically, Directive 6 of Order 150/08 stated as follows:

> *MH to undertake and file with the Board, by a date to be fixed by the Board after its review of the study outline to be filed by MH by June 30, 2009, an independent benchmarking study of key performance metrics, using the most currently-available data and including:*
>
> *(a) Primary key drivers of OM&A in each operational division [Board preference is for a divisional break-down to allow for a comparison with other utilities, even if the comparison needs to be limited to specific divisions/activities],*
> *(b) Comparable other Canadian Utility data for each of the drivers;*
> *(c) Key comparison indicators, including staffing levels;*
> *(d) A comparison with and discussion of industry best practices; and*
> *(e) Potential improvement areas.*
>
> *The Board expects to be apprised of the scope of the benchmarking study in advance of it being undertaken, and will anticipate being provided a study outline on or before June 30, 2009, to allow the Board the opportunity to provide direction and/or comment.*

In April 2010, Manitoba Hydro requested this directive to be deferred until after implementation of International Financial Reporting Standards ("IFRS"), and this request was acknowledged by the PUB in Order 5/12. Deferring this directive until such time was considered appropriate as greater uniformity of accounting practices among utilities under IFRS was expected to provide improved comparability across utilities (see PUB/MH II-175 from the 2009/10 & 2010/11 GRA). However, prior uncertainty surrounding the treatment

of rate-regulated assets and liabilities under IFRS has resulted in divergence in practice with respect to the financial reporting frameworks (IFRS, US GAAP) used by Canadian electric utilities. During the 2014/15 & 2015/16 General Rate Application, Manitoba Hydro indicated that it would assess the value of carrying out an independent benchmarking study subsequent to the implementation of IFRS and seek further direction from the PUB (see COALITION/MH I-73a).

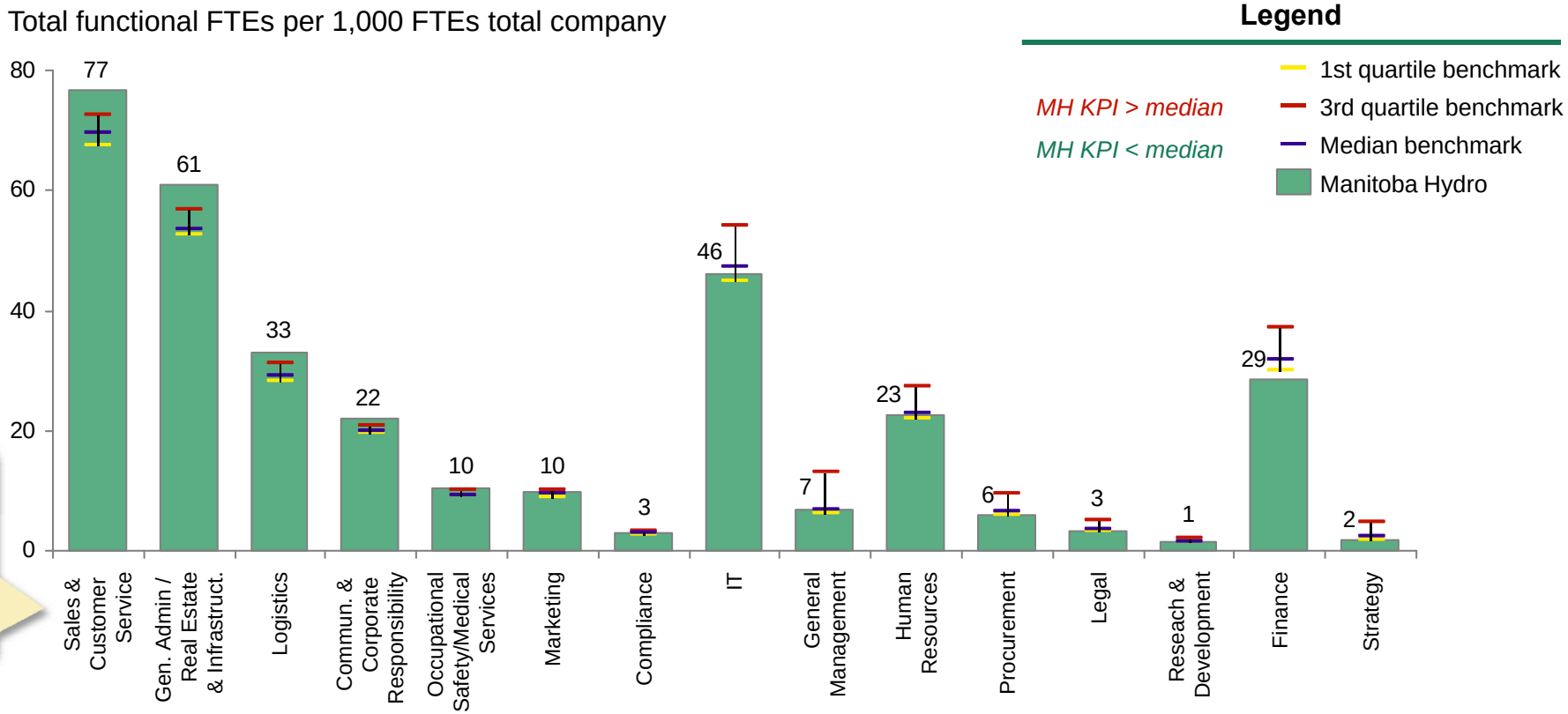
The corporation transitioned to IFRS in fiscal year 2015/16. As part of the review undertaken by the Boston Consulting Group ("BCG") on behalf of the Manitoba Hydro-Electric Board ("MHEB") in the fall of 2016, BCG undertook a benchmarking of Manitoba Hydro's EFTs and Operating & Administrative costs by operational activity against other utilities. Manitoba Hydro is sharing as attachments to this Appendix the results of the benchmarking work undertaken by BCG in order to inform any considerations with respect to the next steps for this Directive that remains outstanding.

G&A

PRIVILEGED AND CONFIDENTIAL – PREPARED IN CONTEMPLATION OF REGULATORY LITIGATION

Benchmarks suggest corporate opportunity ~$15–20M

Opportunity represents reduction of ~125 to 175 FTEs



Mapped and benchmarked ~2,150 FTEs, based on functional role *irrespective of BU reporting*

MH Percentile Position	88th	100th	93rd	94th	81st	73rd	71st	42nd	50th	42nd	29th	35th	33rd	9th	19th	Total
Est. Opp to Median ($M)	4.4	4.2	2.7	1.8	0.9	0.3	0.2	-	-	-	-	-	-	-	-	**$15M**
Est. Opp to Q1 ($M)	5.7	4.8	3.1	2.2	1.0	0.6	0.3	1.0	0.4	0.5	0.1	0.1	0.0	-	-	**$20M**

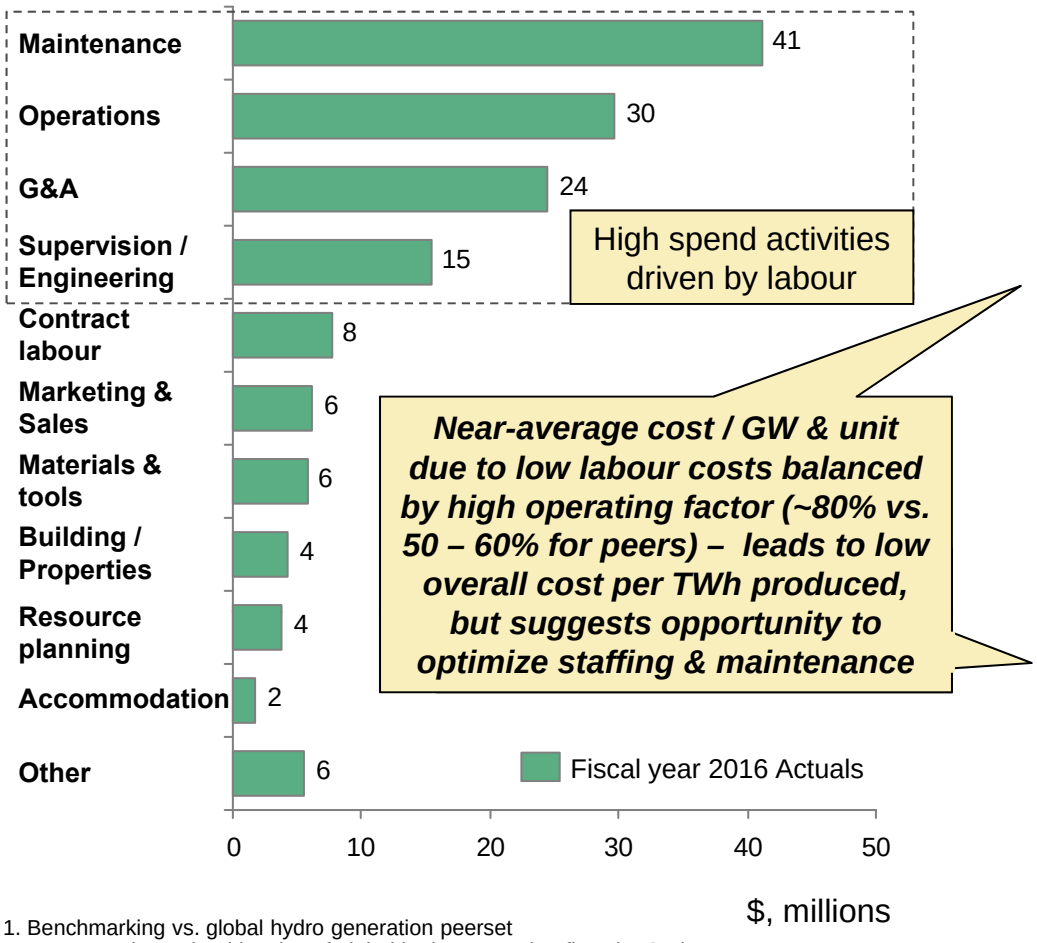
Note: For IT, the median benchmark is an average benchmark. Subsidiary and DSM functional FTEs have been excluded from the analysis.
Source: BCG Excellence in Support Functions Database, August 2016. Manitoba Hydro HR / Payroll data as of 31st Mar 2016

Operations

PRIVILEGED AND CONFIDENTIAL – PREPARED IN CONTEMPLATION OF REGULATORY LITIGATION

Generation: Operational cost breakdown & benchmarking

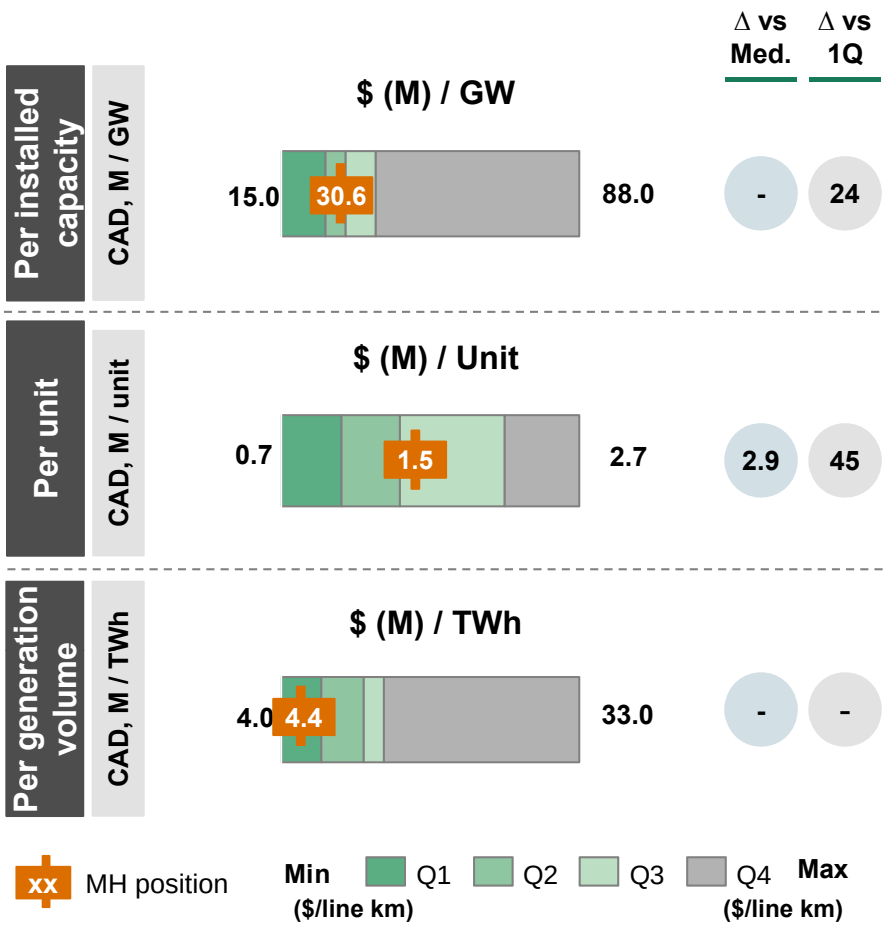
Cost breakdown by operational activity



High spend activities driven by labour

Near-average cost / GW & unit due to low labour costs balanced by high operating factor (~80% vs. 50 – 60% for peers) – leads to low overall cost per TWh produced, but suggests opportunity to optimize staffing & maintenance

Benchmarking vs. global peers



1. Benchmarking vs. global hydro generation peerset
Note: Peers determined by size of global hydrogeneration fleet (>1GW)
Source: MH Financials; BCG Global hydro benchmark

THE BOSTON CONSULTING GROUP

Draft—for discussion only

Operations

PRIVILEGED AND CONFIDENTIAL – PREPARED IN CONTEMPLATION OF REGULATORY LITIGATION

Transmission: Operational cost breakdown & benchmarking

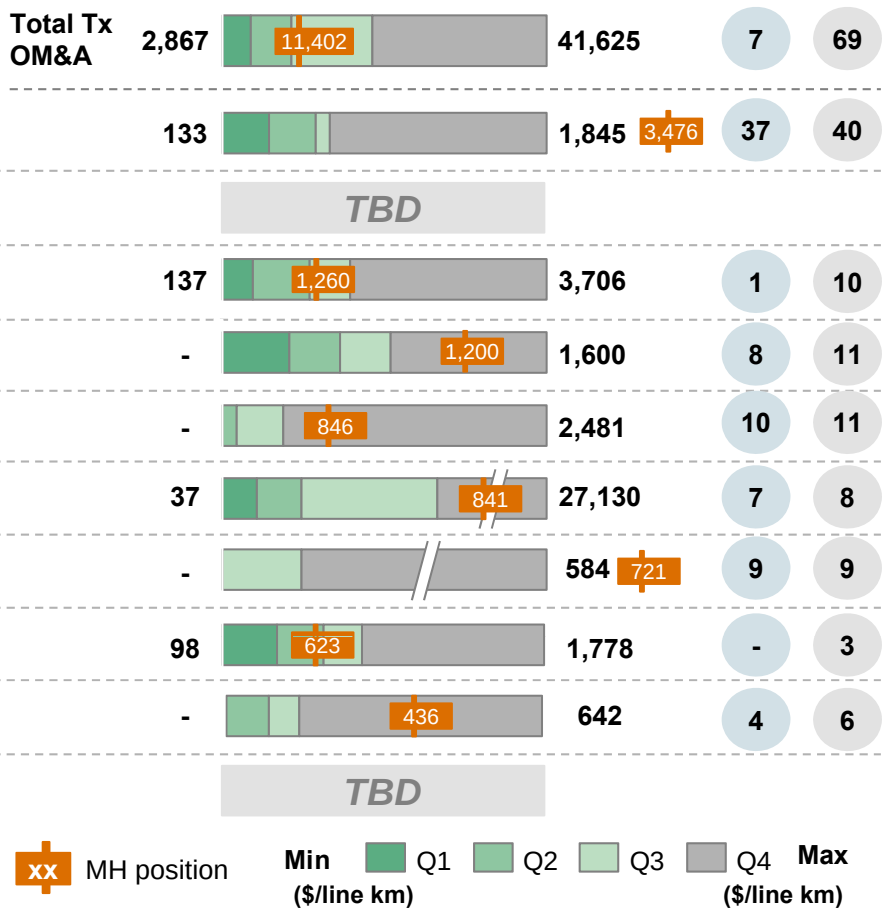
Several operational activities worth investigating for potential operational savings

Cost breakdown by operational activity

	OM&A Cost ($)	Quartile
Maintenance Station operations equipment	45,161,175	4th
Maintenance station (other)	23,315,891	N/A
OH / UG lines	16,383,590	3rd
Monitoring, transmission sys. ops	15,598,753	4th
Scheduling, control & disp.	11,002,770	4th
Stations Operations	10,944,849	4th
Telecommunications infrastructure	9,377,002	4th
Supervision / Engineering	6,825,407	2nd
Tx service scheduling	5,670,806	4th
Other	3,944,255	N/A

50,000,000

Cost benchmarking ($ / line km)[1]



1. Manitoba Hydro based on 13,000 kilometer transmission lines
Note: Peer set represents companies that operate in low population density (<40 inhabitants per squared kilometer), with similar size of customer base (~500,000 customers) and with similar transmission line distances (avg. distance in peer set equals 9,000km) and active at least across Tx and Dx. Source: MH financials; FERC Form 1 Data

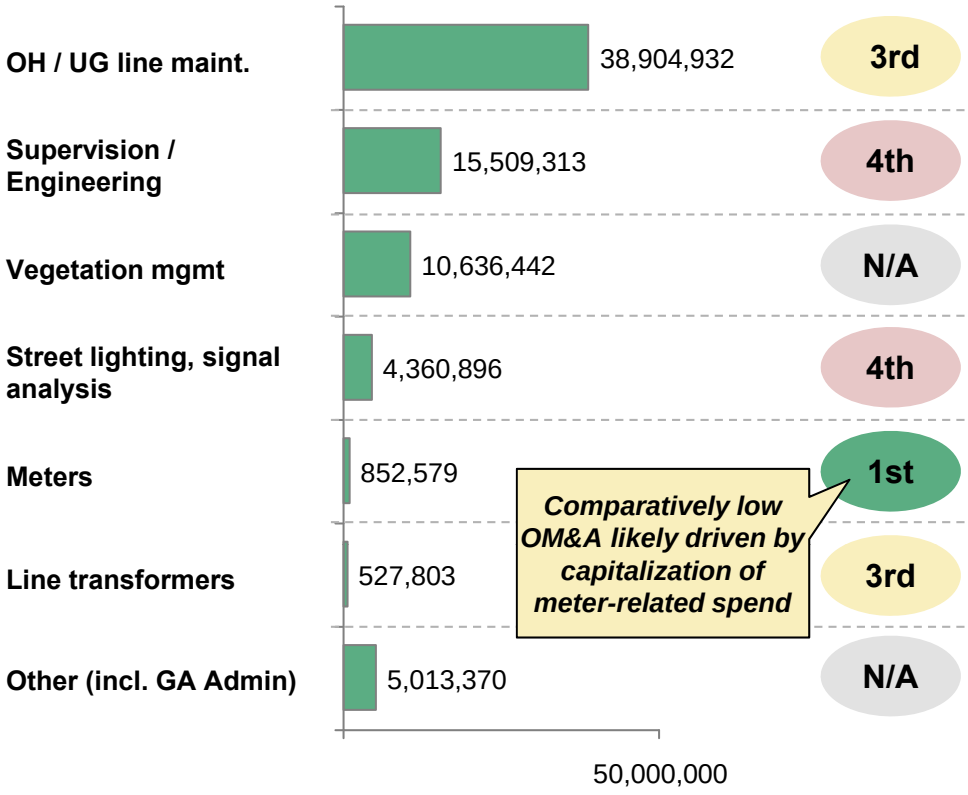
Operations

PRIVILEGED AND CONFIDENTIAL – PREPARED IN CONTEMPLATION OF REGULATORY LITIGATION

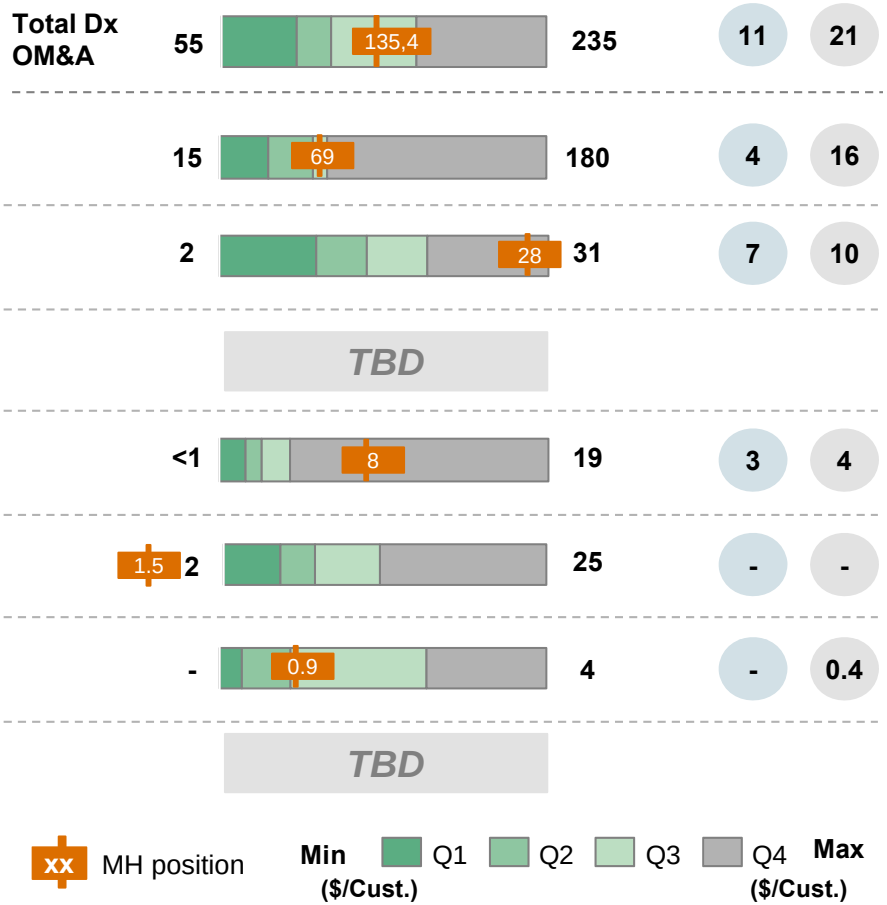
Distribution: Operational cost breakdown & benchmarking

Opportunities mostly exist in maintenance, supervision / engineering & street lighting

Cost breakdown by operational activity



Cost benchmarking ($ / customer)[1]



Improvement potential vs median ($, M)

Improvement potential vs 1Q ($, M)

1. Manitoba Hydro based on 560,000 electric customers
Note: Peer set represents companies that operate in low population density (<40 inhabitants per squared kilometer), with similar size of customer base (~500,000 customers) and active at least across Tx and Dx
Source: MH financials; FERC Form 1 Data

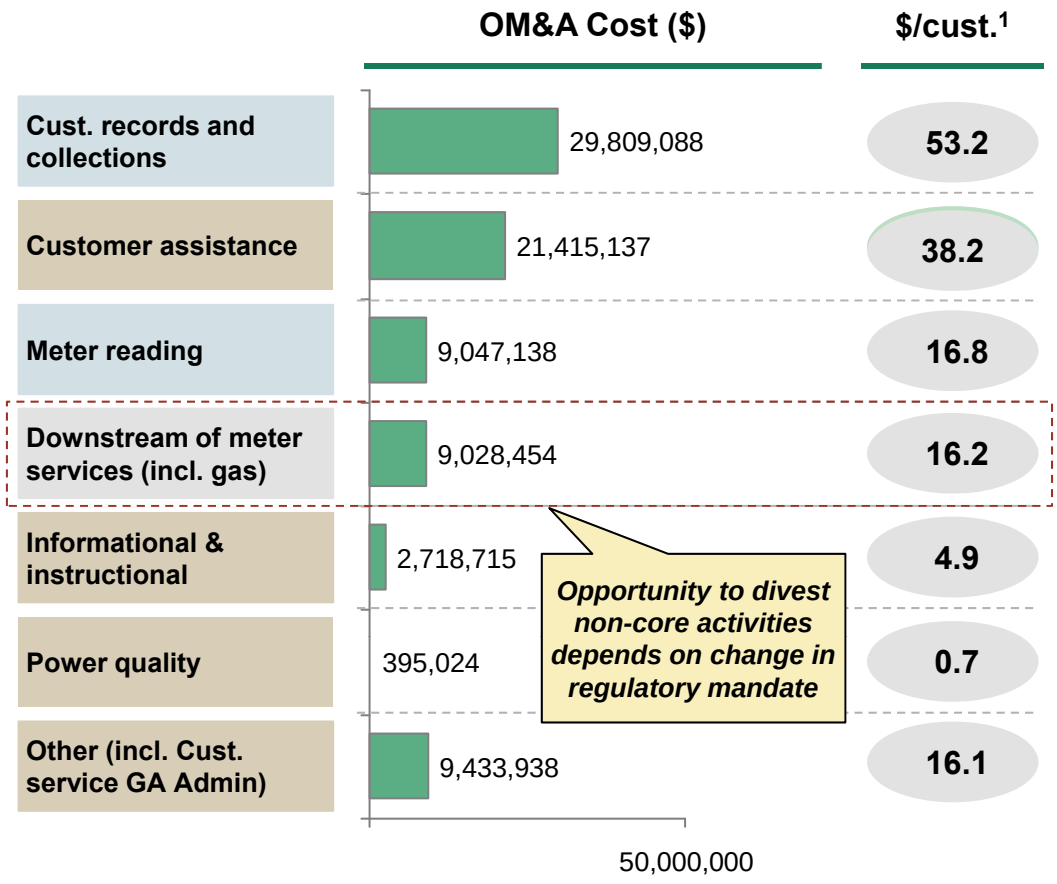
Operations

PRIVILEGED AND CONFIDENTIAL – PREPARED IN CONTEMPLATION OF REGULATORY LITIGATION

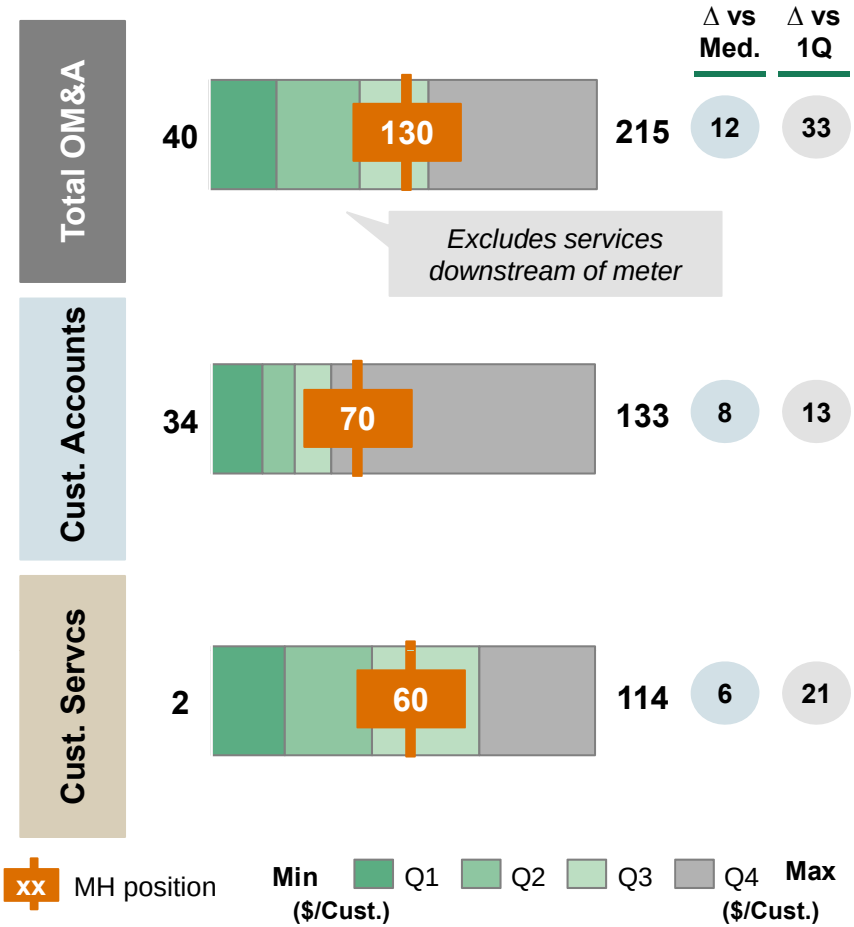
Cust. Service: Operational cost breakdown & benchmarking

Value in divesting downstream of meter services, rationalizing customer account service activities

Cost breakdown by operational activity



Cost benchmarking ($ / customer)[1]



1. Manitoba Hydro based on 560,000 electric customers
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Source: MH financials; FERC Form 1 Data