

# Activity and Program based Benchmarking

---

Working Group Workshop #2  
October 29, 2018

# APB Working Group

---

## Purpose

Inform and seek advice on the activities/programs to focus and frameworks for benchmarking

## Objectives for Today

- Receive feedback on potential list of activities/programs suitable for benchmarking
- Review benchmarking methods and modeling examples of econometric and unit cost



# Agenda

---

0930 - 0940	Recap of Workshop #1/Agenda for the day
0940 - 1000	Follow-up issues
1000 – 1030	Feedback on APB preliminary list
1030 - 1045	BREAK
1045 - 1130	Feedback on APB preliminary list
1130 - 1200	Reporting Issues
1200 - 1245	LUNCH
1245 - 0230	Overview of benchmarking methods
0230 - 0245	BREAK
0245 - 0315	Walk through modeling examples of econometric and unit cost
0315 - 0330	Review of day's work
0330 - 0345	Wrap-up/ Next steps/ Plans for next workshop



# Introduction

---

## Objectives

- Feedback and discussion on preliminary list of activities/programs.
- Provide an overview of benchmarking methods.

## Topics for Discussion

- Recap of Workshop #1
- Follow-up issues
- Feedback on Staff's APB preliminary list of activities / programs
- Reporting Issues related to APB
- Benchmarking methods
- Modeling examples for econometric and unit cost



# Recap of Workshop #1

---

## Overview of what was covered

- Introduction to APB
- Jurisdictional review
- Process for identification of programs/activities
- Development and discussion of Preliminary list
- Review and Revision of Preliminary List



# Follow-up Issues

---

## Related to feedback provided

1. Request for summary of RRR data contents
  - Document provided
2. For Group 1 work, a 6-year average costs was used to identify activities / programs greater than 1%. Issue on whether analysis was done to consider the dispersion of costs among distributors.
  - Review two examples (OM&A and Capital)
3. Discussion on criteria for Group 3 (emerging issues)
  - Updated criteria

# Follow up issue– Example Line Operation & Maintenance

Account Description	6 –year Average (\$ M)	% of Total OM&A
Line operation and maintenance	190	12%

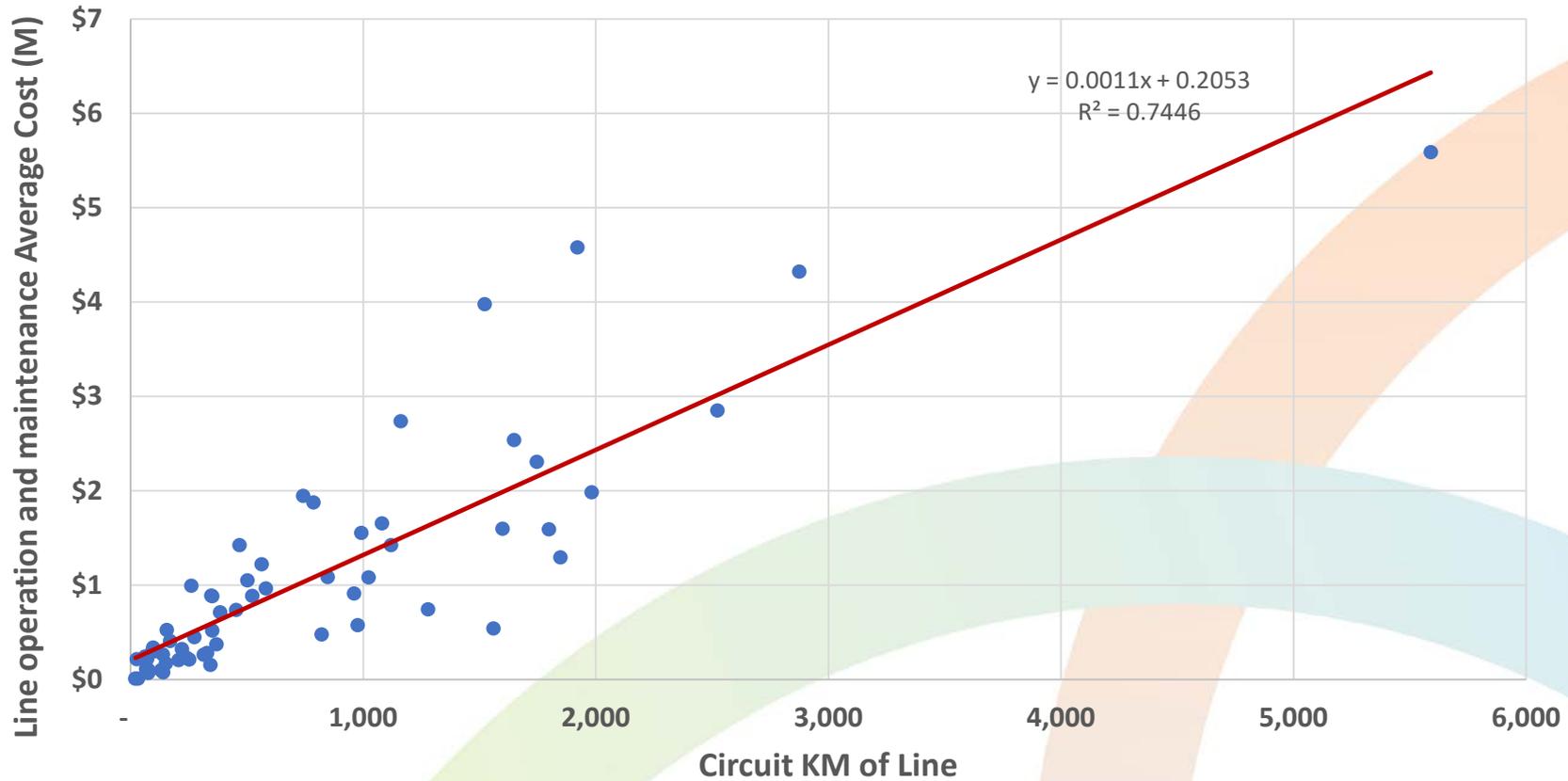
Purpose: To show dispersion of distributors' costs for this account

- Line operation and maintenance was compared to circuit km of line (per the 2017 Yearbook)
- Alectra, Hydro One Networks (Dx) and Toronto Hydro were removed to provide a viewable scale on the graph (next slide)
- The R2 is moderate indicating reasonable dispersion of cost for the sector



# Follow up issue– Example Line Operation & Maintenance

Line operation and maintenance per Circuit km of Line (6 year average)



# Follow up issue – Example Poles, Towers & Fixtures

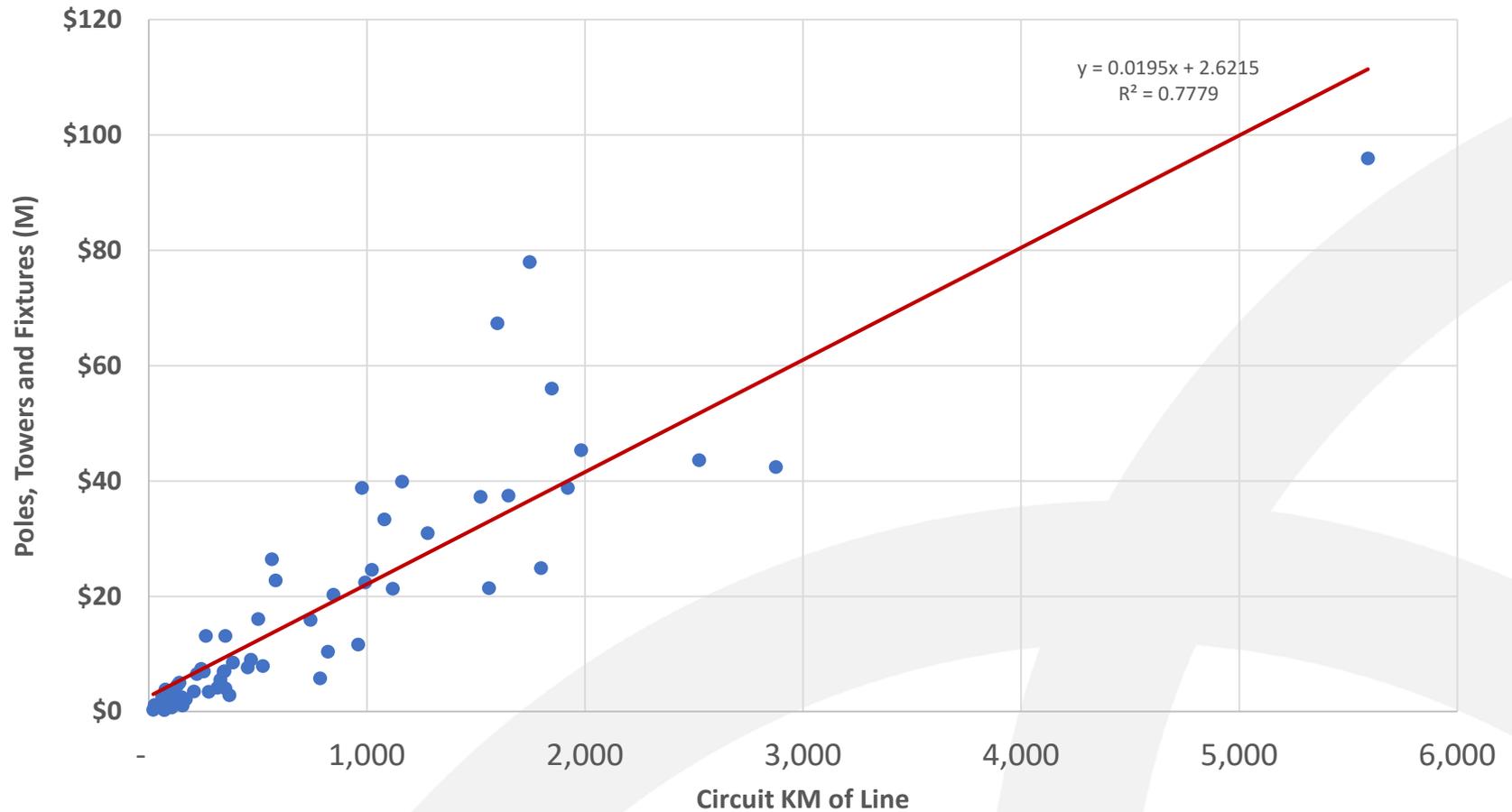
Account Description	6-year Average (\$ M)	% of Total Capital
Poles, Towers and Fixtures	4,713	19%

Purpose: To show dispersion of distributors' costs for this account

- Poles, Towers and Fixtures (gross asset) was compared to circuit km of line (per the 2017 Yearbook)
- Alectra, Hydro One Networks (Dx) and Toronto Hydro were removed to provide a viewable scale on the graph (next slide)
- The R2 is moderate indicating reasonable dispersion of costs for the sector. Note results will vary on a net book value (NBV) basis

# Follow up issue – Example Poles, Towers & Fixtures

Poles, Towers and Fixtures per total Circuit km of Line (6 year average)



# Follow-up Issue: Group 3 Analysis of Emerging Issues

---

Based on feedback received (changes shown in red font):

- Review of emerging issues driving distribution costs
- Research, includes Strategic Blueprint, Ontario's Long-Term Energy Plan (LTEP), IESO LTEP Implementation Plan, and The Conference Board of Canada
- Created a short-list of industry risks & development trends:
  - Increasing Cyber security risk
  - Aging infrastructure
  - Changing supply and demand patterns
  - More extreme weather
  - Increase in embedded generation facilities (increasing complexity in system protection and control)
  - Growth – population and infrastructure (electrification of electric vehicles)
  - Government Initiatives (e.g. Long Term Energy Plan)
  - IESO renewable application
  - Technological innovation
- Note - No change to Group 3 list resulting from feedback changes received
- Linked and mapped the emerging issues to Group 1 accounts and Group 2 applications activities or programs.



# Feedback on APB preliminary list

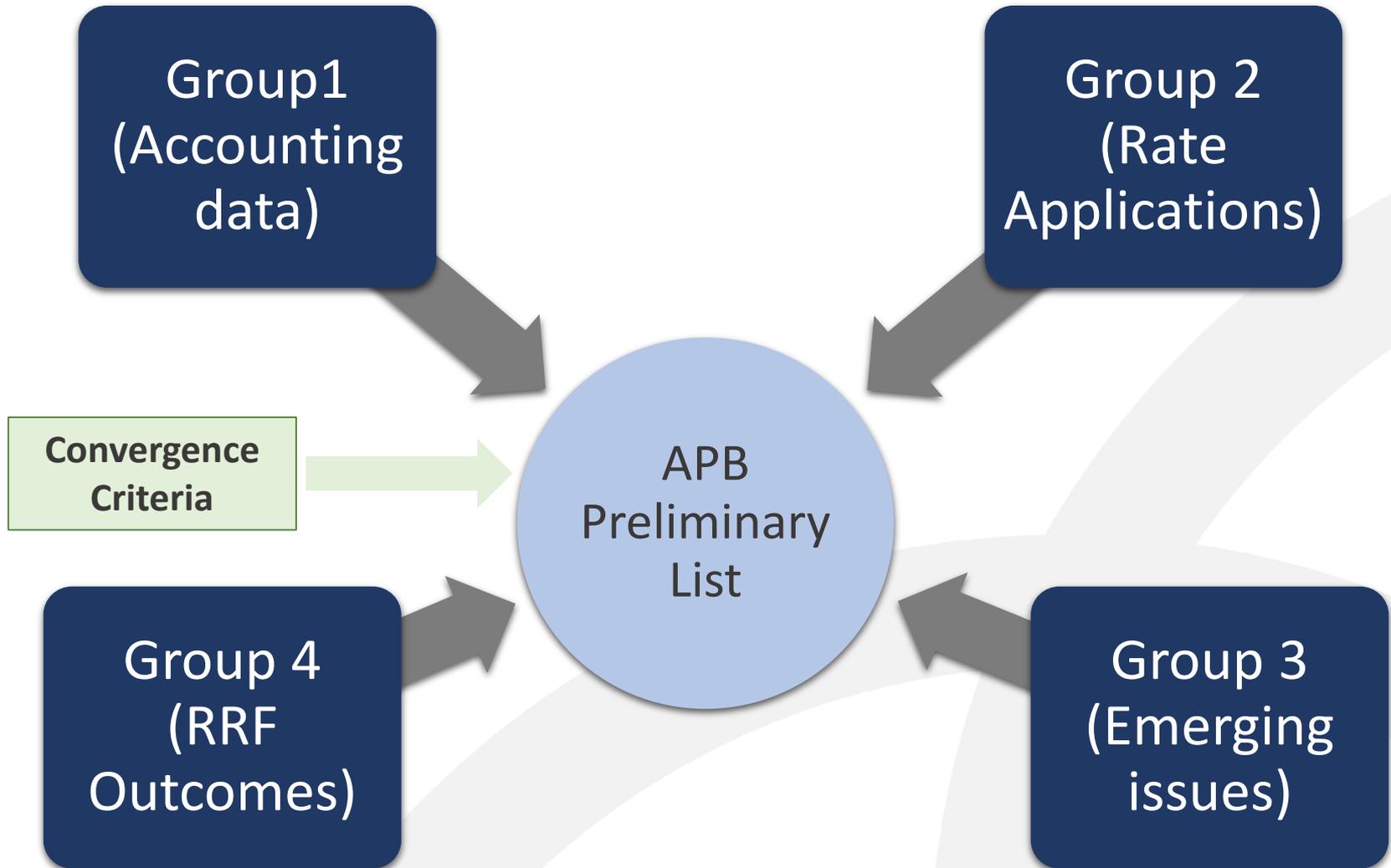
---

- Approaches
  - *Reviewed how to identify activities / programs*
- Preliminary lists
  - *Reviewed activities / programs under various approaches*
- Short-list criteria
  - *Showed the criteria to select the appropriate activities/programs*
- Fit for purpose
  - ***Can these drive more efficiencies and better outcomes?***
- Completeness
  - ***Are they representative of the key utility activities/programs?***



# Overview of Activities / Programs Identification

---



# Preliminary List of Activities/Programs

OM&A	Capital
Vegetation management	Line renewal/conversion (U/G and O/H)
Billing	Poles, Towers and Fixtures
Meter Expense	Transformers (including line transformers)
Line operation and maintenance	Distribution station equipment
Operation Supervision and Engineering	Meters
Distribution Station Equipment	Computer hardware
Bad Debt	New services
Collection	System Supervisory Equipment - SCADA
Maintenance Poles, Towers and Fixtures	
Computer software	
System Control/Control Centre Operations	
General Expenses & Administration	



# Costs Associated with Preliminary List

OM&A	Group 1 Average Costs - OM&A (\$ M)	Capital	Group 1 Average Costs – Gross Capital (\$ M)
Vegetation management	161	Line renewal/conversion (U/G and O/H)*	322
Billing	124	Poles, Towers and Fixtures	4,713
Meter Expense	81	Transformers (including line transformers)	3,898
Line operation and maintenance	190	Distribution station equipment	1,919
Operation Supervision and Engineering	62	Meters	1,326
Distribution Station Equipment	50	Computer hardware	823
Bad Debt	49	New services*	187
Collection	48	System Supervisory Equipment - SCADA	240
Maintenance Poles, Towers and Fixtures	29	* Average costs associated with Group 2 Applications	
Computer software*	150		
System Control/Control Centre Operations*	31		
General Expenses & Administration*	20		



# Preliminary List of Activities/Programs

Updated based on workshop #1 discussions

OM&A	Capital
Vegetation management	Line renewal/conversion (U/G and O/H)
Billing	Poles, Towers and Fixtures
Meter Expense	Transformers (including line transformers)
Line operation and maintenance	Distribution station equipment
Operation Supervision and Engineering	Meters
Distribution Station Equipment	Computer hardware
<del>Bad Debt ?</del>	New services
<del>Collection ?</del>	System Supervisory Equipment - SCADA
Maintenance Poles, Towers and Fixtures	
Computer software	
System Control/Control Centre Operations	
General Expenses & Administration	



# Possible Asset-Level Benchmarking Candidates Comparison

---

OEB Staff and Midgard's preliminary lists for assets

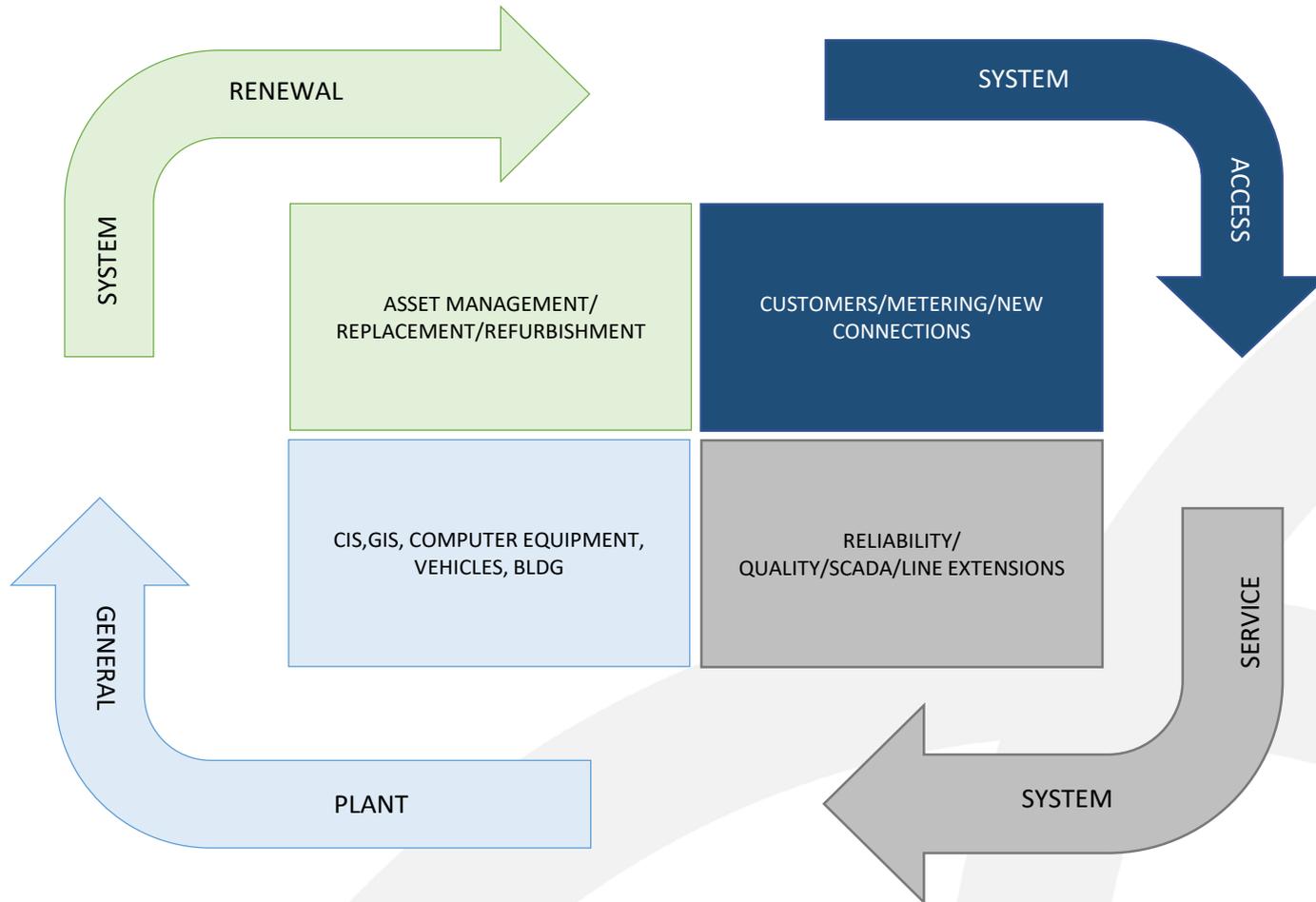
OEB Staff	Midgard*
Poles, Towers and Fixtures	Poles / Structures
Line renewal/conversion (U/G and O/H)	Lines renewal
Transformers (including line transformers)	Transformers
Distribution station equipment	Distribution Stations
Meters	Meters
New services	Breakers
System Supervisory Equipment - SCADA	Circuit Reclosers
Computer hardware and software	

\* OEB Staff engaged Midgard Consulting Inc. to review potential activities and programs from DSP perspective. This preliminary list is subject to change upon further evaluation.



# CAPEX Benchmarking - DSP Categories

Chapter 5 - Table 1



# CAPEX Benchmarking - DSP Categories

High-level overview of the results from 30 rebasing applications review of DSP information

	Category	Primary	Secondary	Total 30 Distributors (\$ M)	% of Total
		Total (\$ M)	Total (\$ M)		
2	System Access	281	152	433	25%
1	System Renewal	679	74	752	44%
4	System Service	84	96	181	10%
3	General Plant	305	51	356	21%
<b>Grand Total Capital</b>		<b>1,349 (78%)</b>	<b>373 (22%)</b>	<b>1,722</b>	<b>100%</b>

# CAPEX Benchmarking - DSP Categories

---

- Review of 30 rebasing applications DSPs showed there is a good basis of capital spending data to support management planning and regulatory approvals
- Four categories of Capex provide a strong basis for benchmarking consideration
  - Linked to 5 year planning cycle and spending plan
  - Supports the revenue requirement requests
  - Linked to scorecard's asset management measure
- Filing requirements for DSP includes 10 years of data
  - 5 years historic and 5 years forecast
- Information is already assembled for rate applications, planning and reporting
  - rebasing applications and to report scorecard performance
- *In addition to potential selection of the 6 assets from the preliminary list, would benchmarking the four categories of the DSP programs be useful to capture Capex from an applications / DSP perspective?*

# Reporting Issues

---

## Background

- Reporting consistent and accurate data critical to achieving good benchmarking results and comparability
- Information based on data inconsistencies or errors affect how a user interprets information and makes decisions
- A review of important accounting and reporting issues that impact benchmarking results

## Issues

- Capitalization and depreciation
- Fully Allocated Cost and Burden
- Classification / Itemization



# Reporting Issues-Capitalization & Depreciation

---

- Capitalization and depreciation policies or practices can only change through OEB approval for regulatory purposes
- OEB required distributors to early adopt IFRS-related capitalization and depreciation policies for regulatory reporting (in 2012 and mandatory by 2013)
- Changes to depreciation rates granted through a range of choices provided in the OEB commissioned Depreciation Study for Use by Electricity Distributors (EB-2010-0178) (“Kinectrics Report”)
- Distributors transitioned to key IFRS-based rules prior to their formal IFRS adoption in 2015
- Consistent reporting of PP&E and depreciation expense expected



# Reporting Issues-Fully Allocated Cost & Burden

---

At the activity/program level benchmarking, reporting errors matter more than compared to at high level total cost benchmarking

- Need for consistent application of fully allocated cost (FAC) for capital assets (property, plant and equipment)
- Need for consistent application of burden costs in OM&A expense accounts; no indirect cost applicable
- E.g., A/C 5020 Overhead Distribution Lines and Feeders - Operation Labour -This account shall include labour with payroll burden incurred
  - APH Article 340 - Payroll burden: The costs of benefits directly associated with labour in addition to actual payroll costs. Such [payroll] costs may include fringe benefits, the employer's portion of Employment Insurance and Canada Pension Plan contributions, medical care, Workers' Health and Safety Insurance, pension and other insurance
  - Clearing account generally used to accumulate and charge costs



# Reporting Issues-Fully Allocated Cost & Burden

## Fully Allocated Cost Applicable to Capital Assets (PP&E)

To show fully allocated costs (FAC) applicable to capital assets (e.g. poles, transformers and stations) under different accounting standards.

Cost based activities generally include the following:

- Direct Materials (DM)
- Direct Labour/Benefits (DL)
- Directly Attributable Costs (DAC)
- Indirect Costs (Overheads) (IC)

## Numerical example - Poles:

- This example comprises FAC attributable for Poles for a distributor
- There are differences in calculations between CGAAP and IFRS
  - Most distributors in Ontario use the IFRS effective 2015 (some earlier)
  - OEB required distributors to early adopt IFRS-based capitalization and depreciation accounting policy for regulatory reporting (mandatory by 2013)

# Reporting Issues-Fully Allocated Cost & Burden

A key difference between CGAAP and IFRS capitalization is that indirect costs (or overheads) are not includable under IFRS – resulting in a \$1,000 lower amount in the asset value. The service life (and depreciation expense) may also differ under IFRS.

Cost Item	CGAAP / USGAAP	IFRS
Direct Materials	\$6,500	\$6,500
+ Direct Labour	\$1,500	\$1,500
+ Directly Attributable Costs	\$1,000	\$1,000
+ Indirect Costs (or Overheads)	\$1,000	N / A
= Total	\$10,000	\$9,000



# Reporting Issues-Classification / Itemization

---

In mid-2018, Licensing and Performance Reporting staff conducted a broad review and analysis of the sector's usage of specified reported account balances filed in trial balance filings. The scope of the review was for 2015-2017 reported data

## Limited use of OM&A Accounts & numerous Nil balances

- Of the 130 OM&A accounts available for reporting in the trial balance, only a small number of accounts, 33 representing approximately 96% of total OM&A value for the sector were used
- 66 distributors reported a zero balance in at least one OM&A account
- 18 distributors made revisions to correct reporting in OM&A accounts as a result of OEB staff enquiries

# Reporting Issues-Classification / Itemization

---

## Capital asset accounts related to generation

- Misreported Distribution Plant accounts as Generation which were corrected

## Large miscellaneous OM&A account balances

- There are four miscellaneous OM&A accounts (5085, 5340, 5425 and 5665) intended for reporting immaterial costs or amounts that otherwise could not be classified or reported in the main OM&A activities accounts
- 14 distributors reported large balances (10% or more of total OM&A) in at least one miscellaneous account
- Some distributors made commitment to reclassify to appropriate OM&A accounts for reporting going forward
- Not classifying contractor costs to relevant work activities



# Review of Day's Work



October 29, 2018

# Wrap-Up/Next Steps



# Appendices



# Reporting Issues-Classification / Itemization

Account Number	Account Name	Description per APH
5085	<b>Miscellaneous Distribution Expenses</b>	This account shall include the cost of labour, materials used and expenses incurred in distribution system operation not provided for elsewhere.
5340	<b>Miscellaneous Customer Accounts Expenses</b>	This account shall include the cost of labour, materials used and expenses incurred not provided for in other accounts.
5425	<b>Miscellaneous Customer Service and Informational Expenses</b>	This account shall include labour, materials and expenses incurred in connection with customer service activities which are not included in other customer service expense accounts.
5665	<b>Miscellaneous General Expenses</b>	This account shall include the cost of labour and expenses incurred in connection with the general management of the utility not provided for elsewhere.