

Appendix:

OEB YARDSTICK TASK FORCE REPORT

APPENDIX A – YARDSTICK MECHANISM DATA REQUIREMENT SURVEY

This following survey was distributed to the electricity distributors in Ontario on January 27, 1999:

Please provide the following information for your utility for 1998:

1. Total Service Area (square km)
 - Total service area serviced in 1998(i.e. franchise area)
 2. Rural Service Area (square km) as Defined by Municipality
 3. Urban Service Area (square km) as Defined by Municipality
 - (#1 = #2 + #3)
 4. Service Area Population
 - Population of # 1
 5. Municipal Population
 - Same as #4 if service area goes to Municipal boundary
 6. Number of Seasonal Occupancy Customers (at least four months at minimum bill)
 7. Number of Total Customers, kWh, kW (billed) and Revenues
 8. Number of Residential Customers, kWh and Revenues
 9. Number of General Service Customers, kWh, kW (billed) and Revenues
 10. Number of Large Use Customers (>5,000 kW), kWh, kW (billed) and Revenues
 11. Utility Annual Peak Load (kW, maximum monthly peak), is Peak in Summer or Winter, and Average (of 12-monthly peaks) Peak Load (kW)
 12. Utility Average (of 12-monthly) Load Factor
 13. Distribution System Losses (all losses, as a %).
 14. System Voltage Level(s) - (kV) - Please list all voltage levels in system.
 15. Total Circuit Kilometres of Line
 16. OH/UG Circuit Kilometres of Line
 17. Circuit Kilometres of Line by following Type :
 - 3 phase (not multiplied by 3)
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- 2 phase (not multiplied by 2)
 - Single phase
18. Number of Distribution and Transmission Stations and Voltages
 19. Number of Transformers by type:
 - Transmission
 - Subtransmission
 - Distribution
 20. Does your Utility have a Control Centre (i.e. Distribution SCADA system only). If yes, is it staffed and how many hours per day is it staffed.
 21. Description of Generation Assets within your Utility. If yes, explain
 22. Description of Utility-owned Transmission System (>50 kV)
 23. Contributed Capital/Developmental Charges - Please provide policy if available.
 24. Does your Utility have Shared Services with other Municipal Departments?
 25. Is your Utility a Multiple-use Utility (e.g. electricity, water and sewer)
 26. Special Circumstances/Unique Attributes of your Utility (e.g. difficulty with access to system for maintenance, rock substrate)
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Appendix:

OEB CAP MECHANISM TASK FORCE REPORT

APPENDIX A - CAP MECHANISM DATA SURVEY

B. Labour/Compensation, Capital and Miscellaneous Items

The following survey was distributed to the electricity distributors in Ontario on January 27, 1998:

The following information is required by year for a ten-year period (1988-1997, and 1998 if available). We have noted items that can be provided only if readily available and will not unduly delay submission of remaining information.

In addition the task force has identified a few additional items (#11 - #15) that need to be provided.

Labour/Compensation

1. Number of own full-time employees
2. Number of own part-time employees (If available)
3. Number of own FTE employees
4. Number of contract or outsourced "employees"(if available)
5. Total labour compensation (e.g. wages, salaries, pension, fringe, bonuses, etc.)
6. Total contract and outsourced labour expenses (*if available*)

The following information is required by year for a 25-period if possible, 1973-1998, but at minimum for the period 1977-1998.

Capital

6. Gross book value
 7. Depreciation expense
 8. Amortization expense
 9. Retirements
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10. Capital additions by the following categories or *aggregations of these categories*: Land; land rights; building and fixtures; generating assets; transmission line; transmission station equipment; distribution station equipment; sub-feeder overhead; sub feeder underground; distribution lines overhead; distribution lines underground; distribution transformers; distribution meters; sentinel light equipment; office equipment; computer equipment; store equipment; lease improvement; rolling stock; miscellaneous equipment; water heaters; load management control; system supervisory equipment; and sentinel lights.
11. Total Contributed Capital/Developmental Charges (\$/year).

Miscellaneous Items

The following is required by year for the 1988-1997 period:

12. % Line Losses
 13. Annual Cost of Power
 14.
 - a. Total Customers: Number, kWh, kW (billed) and Revenues
 - b. Residential Customers: Number, kWh and Revenues
 - c. General Service Customers: Number, kWh, kW (billed) and Revenues
 - d. Large Use Customers (>5,000 kW): Number, kWh, kW (billed) and Revenues
 15. Total Expenses (excluding generation expenses)
-

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APPENDIX C

Customer Service Performance Benchmarks Survey

This survey is being conducted to assist the Ontario Energy Board in the establishment of measurable performance benchmarks for electric utilities. Such benchmarks will be used in the future Performance Based Regulation (PBR) environment.

The survey asks your opinions on several performance benchmarks that are under consideration. If adopted, these benchmarks would be based on a twelve-month reporting interval. This will serve to dampen the impact of extraordinary events.

When assessing the costs of compliance for these benchmarks, please note that it will be necessary to maintain transaction records for the purpose of OEB audits.

Utility Name: _____ (Optional) Contact person: _____ (Optional)
No. of customers: _____ Phone No. _____
Fax No.: _____ E-mail address: _____

1. PERFORMANCE BENCHMARK #1 - EMERGENCY RESPONSE

Emergency trouble calls (i.e. fire, ambulance, police, etc.) will be responded to within 120 minutes in rural areas and 60 minutes in urban areas, 80% of the time.

- a) Is this performance measure clearly defined? Yes No

If not, please explain why: _____

- b) Do you think this is a reasonable standard? If not, why and what would be reasonable?

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c) Could you measure your utility's performance under this benchmark using existing staff and equipment?

Yes No

If not, what is your best estimate of the costs to do so?

- Start up / initial costs \$ _____
- Annual cost of measurement after startup \$ _____

If your utility can currently measure this performance benchmark what is the annual cost of doing so?

\$ _____

2. PERFORMANCE BENCHMARK #2 - CONNECTION OF NEW SERVICES

After all conditions of service are satisfied, including an electrical safety inspection, low voltage services will be connected within 5 working days and high voltage services within 10 working days, 90% of time.

a) Is this performance measure clearly defined? Yes No

If not, please explain why: _____

b) Do you think this is a reasonable standard? If not, why and what would be reasonable?

c) Could you measure your utility's performance under this benchmark using existing staff and equipment?

Yes No

If not, what is your best estimate of the costs to do so?

- Start up / initial costs \$ _____
- Annual cost of measurement after startup \$ _____

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If your utility can currently measure this performance benchmark what is the annual cost of doing so?

\$ _____

3. PERFORMANCE BENCHMARK #3 - UNDERGROUND CABLE LOCATES

Underground cable locates will be completed within 5 working days of the customer's request, 90% of the time.

a) Is this performance measure clearly defined? Yes No

If not, please explain why: _____

b) Do you think this is a reasonable standard? If not, why and what would be reasonable?

c) Could you measure your utility's performance under this benchmark using existing staff and equipment?

Yes No

If not, what is your best estimate of the costs to do so?

▪ Start up / initial costs \$ _____

▪ Annual cost of measurement after startup \$ _____

If your utility can currently measure this performance benchmark what is the annual cost of doing so?

\$ _____

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4. PERFORMANCE BENCHMARK #4 - TELEPHONE ACCESSIBILITY

During normal office hours, incoming telephone calls will be answered within 30 seconds, 65% of the time.

- a) Is this performance measure clearly defined? Yes No

If not, please explain why: _____

- b) Do you think this is a reasonable standard? If not, why and what would be reasonable?

- c) Could you measure your utility's performance under this benchmark using existing staff and equipment?

Yes No

If not, what is your best estimate of the costs to do so?

- Start up / initial costs \$ _____
- Annual cost of measurement after startup \$ _____

If your utility can currently measure this performance benchmark what is the annual cost of doing so?

\$ _____

5. PERFORMANCE BENCHMARK #5 - SERVICE DISCONNECT/RECONNECT

Requests for service disconnects will be accommodated within 3 days within the date requested by the customer, 90% of time, and

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Requests for service reconnects will be accommodated within 24 hours of the date requested by the customer, 90% of the time.

- a) Is this performance measure clearly defined? Yes No

If not, please explain why: _____

- b) Do you think this is a reasonable standard? If not, why and what would be reasonable?

- c) Could you measure your utility's performance under this benchmark using existing staff and equipment?

Yes No

If not, what is your best estimate of the costs to do so?

- Start up / initial costs \$_____
- Annual cost of measurement after startup \$_____

If your utility can currently measure this performance benchmark what is the annual cost of doing so?

\$_____

6. PERFORMANCE BENCHMARK #6 - NOTICE OF SUPPLY INTERRUPTION

Residential: For scheduled power interruptions of 5 minutes in duration or longer, all affected customers will receive telephone or written notice 1 day in advance, 90% of the time.

Commercial/Industrial: For all scheduled power interruptions, regardless of duration, all affected customers will receive telephone or written notice 3 days in advance, 90% of the time.

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a) Is this performance measure clearly defined? Yes No

If not, please explain why: _____

b) Do you think this is a reasonable standard? If not, why and what would be reasonable?

c) Could you measure your utility's performance under this benchmark using existing staff and equipment?

Yes No

If not, what is your best estimate of the costs to do so?

▪ Start up / initial costs \$ _____

▪ Annual cost of measurement after startup \$ _____

If your utility can currently measure this performance benchmark what is the annual cost of doing so?

\$ _____

7. PERFORMANCE BENCHMARK #7 – WRITTEN RESPONSE TO INQUIRIES

Requests for information requiring a written response (i.e. lawyer's title searches, historical account information, etc.) will be responded to within 10 working days after receipt, 80% of the time.

a) Is this performance measure clearly defined? Yes No

If not, please explain why: _____

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b) Do you think this is a reasonable standard? If not, why and what would be reasonable?

c) Could you measure your utility's performance under this benchmark using existing staff and equipment?

Yes No

If not, what is your best estimate of the costs to do so?

- Start up / initial costs \$ _____
- Annual cost of measurement after startup \$ _____

If your utility can currently measure this performance benchmark what is the annual cost of doing so?

\$ _____

8. PERFORMANCE BENCHMARK #8 – APPOINTMENTS

Customers must be offered a minimum of morning or afternoon appointments and appointments must be honoured 90% of the time.

a) Is this performance measure clearly defined? Yes No

If not, please explain why: _____

b) Do you think this is a reasonable standard? If not, why and what would be reasonable?

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c) Could you measure your utility's performance under this benchmark using existing staff and equipment?

Yes No

If not, what is your best estimate of the costs to do so?

- Start up / initial costs \$ _____
- Annual cost of measurement after startup \$ _____

If your utility can currently measure this performance benchmark what is the annual cost of doing so?

\$ _____

9. GENERAL

Do you have any general comments on the performance benchmarks under consideration?

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APPENDIX E

Part B. Reliability Performance Benchmarks Survey

This survey is being conducted to assist the OEB in the establishment of the measurable performance benchmarks for electric utilities. Such benchmarks will be used in the future Performance Based Regulation (PBR) environment.

The survey asks your opinion and requests information on industry-standard reliability performance benchmarks that are under consideration. If adopted, these benchmarks would be based on an annual reporting interval. It is probable that the benchmarks will be smoothed over an interval period of three to five years to dampen the impact of extraordinary events.

Utility Name: _____

Contact Person: _____

Number of Customers: _____

District Size (km²) _____

Fax No.: _____

Phone No.: _____

E-mail address: _____

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To measure reliability performance the OEB is considering monitoring several indices. These are indices that are standard to the electric industry and are defined in CEA and MEA documentation. The indices under consideration are SAIDI, SAIFI and CAIDI. These are defined as:

SAIDI – System Average Interruption Duration Index

This is one indicator of reliability of the distribution system, which expresses the length of outage each customer experiences. It is defined as the total number of power interruptions normalized per customer served. Mathematically expressed as:

$$\text{SAIDI} = \frac{\text{Total Customer-Hours of Interruptions}}{\text{Total Customers Served}}$$

This shows the average length of time a customer was without power in the year. All planned and unplanned interruptions of one minute or more are used to calculate this ratio.

SAIFI – System Average Interruption Frequency Index

This is one indicator of reliability of the distribution system, which expresses the number of interruptions normalized per customer served. Mathematically expressed as:

$$\text{SAIFI} = \frac{\text{Total Customer Interruptions}}{\text{Total Customers Served}}$$

This shows the average number of interruptions per customer. All planned and unplanned interruptions of one minute or more are used to calculate this ratio.

CAIDI – Customer Average Interruption Duration Index

This is one indicator of reliability of the distribution system, which expresses the speed of which power is restored. Mathematically expressed as:

$$\text{CAIDI} = \frac{\text{SAIDI}}{\text{SAIFI}} = \frac{\text{Total Customer Hours of Interruptions}}{\text{Total Customer Interruptions}}$$

This shows the average duration of each interruption in the year. All planned and unplanned interruptions of one minute or more are used to calculate this ratio.

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In addition to the indices, there are specified cause categories that are to classify the various reasons for interruptions. A customer interruption has been defined in terms of primary causes of the interruption. The causes and their codes are listed below. Some utilities further sub-divide these causes according to their own needs.

- 0 - **Unknown/Other**
Customer interruptions with no apparent cause or reason which could have contributed to the outage.
 - 1 - **Scheduled Outage**
Customer interruptions due to the disconnection at a selected time for the purpose of construction or preventive maintenance.
 - 2 - **Loss of Supply**
Customer interruptions due to problems in the bulk electricity supply system.
 - 3 - **Tree Contacts**
Customer interruptions caused by faults due to trees or tree limbs contacting energized circuits.
 - 4 - **Lightning**
Customer interruptions due to lightning striking the distribution system, resulting in an insulation breakdown and/or flashovers.
 - 5 - **Defective Equipment**
Customer interruptions resulting from equipment failures due to deterioration from age, incorrect maintenance, or imminent failures detected by maintenance.
 - 6 - **Adverse Weather**
Customer interruptions resulting from rain, ice storms, snow, winds, extreme ambient temperatures, freezing fog, or frost and other extreme conditions.
 - 7 - **Adverse Environment**
Customer interruptions due to equipment being subjected to abnormal environments such as salt spray, industrial contamination, humidity, corrosion, vibration, fire or flooding.
 - 8 - **Human Element**
Customer interruptions due to the interface of the utility staff with the system.
 - 9 - **Foreign Interference**
Customer interruptions beyond the control of the utility such as birds, animals, vehicles, dig-ins, vandalism, sabotage and foreign objects.
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1: Does your utility currently collect information for the purposes of calculating the above noted reliability indices? _____

2: If you do, what do you estimate the cost is to collect and report this data?

3: If you don't collect this data what do you anticipate the cost will be to start the collecting the data? _____

4: If you collect the data, do you categorize the causes in accordance with the above list?

5: If not, what categories do you use? (Please feel free to use additional paper)

6: If you collect the data do you have a five year historical data history? _____
or some other time frame? _____

7: What level of automation do you have in your system (SCADA, remote load-break switches, etc.)? _____

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8: If you collect the data, describe the methods used to gather the information?

9: To assist us in determining benchmarks, please complete the following table as completely as possible?

| Index | 1994 | 1995 | 1996 | 1997 | 1998 |
|-------|------|------|------|------|------|
| SAIDI | | | | | |
| CAIDI | | | | | |
| SAIFI | | | | | |

10: Do you have any general comments on the performance benchmarks under consideration?

Appendix:

Yardstick Task Force Participants

| PARTICIPANTS | | |
|---------------------------------------|--------------------------------------|---|
| Name | Title | Association |
| Richard Archdekin | General Manager | Wasaga Beach HEC |
| Margaret Brown | Administrative Services Supervisor | Pickering Hydro |
| Chris Buckler | Executive Director, Marketing | Mississauga Hydro |
| Stephen Cartwright | Manager, Business Development | Enbridge Consumers Energy |
| Guy Cuff | General Manager/Chief Engineer | Kanata Hydro |
| Fred Druyf | Manager, Finance | Waterloo North Hydro |
| Arthur Emmet | General Manager | Nepean HEC |
| Tim Fryer | Director of Finance | Collingwood PUC |
| Tim Lavoie | Coordinator, Management Information | Great Lakes Power Ltd. |
| Jerry McIntyre | Director | Municipal Electric Association |
| Brian McKerlie | Director, Strategic Utility Planning | Municipality of Chatham-Kent |
| Ed Robertson | Consultant | Econalysis Consulting Services |
| David Simmons | Director of Operations & Engineering | Samia Hydro |
| Colleen Walwyn | Advisor, Regulatory Affairs | Toronto Hydro |
| David Wills | General Manager | North Bay HEC/UCEA |
| Ted Wojcinski | Manager Operations | Vaughan Hydro |
| Larry Yanchuk | Supervisor, Engineering Projects | Sudbury Hydro |
| TASK FORCE MANAGEMENT TEAM | | |
| Co-Manager | Michael King | Vice-President, PHB Hagler Bailly Consulting, Inc. |
| Co-Manager | Frank Cronin | Senior Advisor, PHB, Hagler Bailly Consulting, Inc. |
| Coordinator | Judy Kwik | OEB, Research & Policy Analyst |
| Co-coordinator | Edward Sweet | OEB, Regulatory Officer |

Appendix:

Cap Mechanism Task Force Participants

PARTICIPANTS

| Name | Title | Association |
|-------------------|---|--------------------------------|
| Ron Charie | General Manager & Secretary | Kitchener Wilmot Hydro |
| Doug Cummings | Secretary-Treasurer | Hamilton Hydro |
| Klaas de Groot | Director of Finance | Windsor UC |
| Marika Hare | Director, Business Development | Enbridge Consumers Energy |
| Roland Herman | Executive Director Administration | Mississauga Hydro |
| Tony Jennings | CEO | Municipal Electric Association |
| Carl Kropp | General Manager | Ottawa Hydro |
| Colin Macdonald | Manager, Corporate Planning | Toronto Hydro |
| Jim Malenfant | Senior Advisor, Distribution & Regulation | Ontario Hydro Services Co. |
| Bill Milroy | Director, Design and Construction | Markham Hydro/UCEA |
| Larry Murphy | Consultant | AMPCO |
| Patricia Planting | Co-ordinator, Rate Case Administration | Union Gas |
| Gary Schneider | Senior Advisor, Transmission Regulation | Ontario Hydro Services Co. |
| John Todd | President | Econalysis Consulting Services |

TASK FORCE MANAGEMENT TEAM

| | | |
|----------------|--------------|---|
| Co-Manager | Michael King | Vice-President, PHB Hagler Bailly Consulting, Inc. |
| Co-Manager | Frank Cronin | Senior Advisor, PHB, Hagler Bailly Consulting, Inc. |
| Coordinator | Judy Kwik | OEB, Research & Policy Analyst |
| Co-coordinator | Edward Sweet | OEB, Regulatory Officer |

Appendix:

Distribution Rate Task Force Participants

| PARTICIPANTS | | |
|----------------------------|---|---|
| Name | Title | Association |
| Ralph Amar | Rates Manager | Mississauga Hydro |
| Bruce Bacon | Senior Consultant | Econalysis Consulting Services |
| Tanya Bodell | Principle | Putnam, Hayes & Bartlett |
| Bill Cannon | Associate Professor | Queen's School of Business, Queen's University |
| Al Clark | General Manager & Secretary | Waterloo North Hydro |
| Doug Cummings | Secretary-Treasurer | Hamilton Hydro |
| Gerry Dupont | Assistant General Manager/Controller | Nepean HEC |
| Gordon Firman | Manager, Electricity Operations | Ministry of Energy, Science and Technology |
| Ed Jambor | Sr. Manager of Operations | London Hydro |
| Una O'Reilly | Senior Policy Advisor, Issues Management | Ministry of Energy, Science and Technology |
| Ray Payne | General Manager | Municipality of Chatham-Kent |
| Wayne Panko | Director, Corporate Support | Pickering Hydro |
| Mike O'Shea | Deputy ERO | OEB |
| Adrian Pye | Senior Research Analyst | Enbridge Consumers Gas |
| Ramona Abi Rashed | Director of Finance | Whitby Hydro |
| Robert Reid | Director, Energy Services | Great Lakes Power Ltd. |
| Fran Sengupta | Director of Finance | Sarnia Hydro |
| Ken Snelson | Consultant | AMPCO |
| Rick Stevens | Senior Advisor, Business Strategy | Ontario Hydro Services Co. |
| Don Thorne | General Manager | Milton Hydro |
| Maurice Tucci | Officer | Municipal Electric Association |
| Rick Zebrowski | Manager, Rates & Regulated Services | Toronto Hydro |
| TASK FORCE MANAGEMENT TEAM | | |
| Co-Manager | Michael King | Vice-President, PHB Hagler Bailly Consulting, Inc. |
| Co-Manager | Frank Cronin | Senior Advisor, PHB, Hagler Bailly Consulting, Inc. |
| Coordinator | Judy Kwik | OEB, Research & Policy Analyst |
| Co-coordinator | Edward Sweet | OEB, Regulatory Officer |

Appendix:

Implementation Task Force Participants

PARTICIPANTS

| Name | Title | Association |
|-----------------------|---|--|
| Judy Allan | Director, Regulatory Policy Development | Enbridge Consumers Gas |
| George Armstrong | Director, Energy Services | Pickering Hydro |
| Joe Bailey | VP Infrastructure Management | Toronto Hydro |
| Gunars Ceksters | Executive Director Operations | Hydro Mississauga |
| Lisa DeMarco | Lawyer | Donahue & Partners |
| Paul Elliott | CS Manager | Whitby Hydro |
| Thomas Eyre | General Manager | Brantford Hydro |
| Jack Gibbons | Senior Economic Advisor | Canadian Institute for Environmental Law |
| Ron Lapier | Manager of Engineering | Sarnia Hydro |
| Bob Menard | Staff Officer | Power Workers' Union |
| Larry Murphy | Consultant | AMPCO |
| Cosmo Picassi | System Planning and Performance | Toronto Hydro |
| Patricia Planting | Co-ordinator, Rate case Administration | Union Gas |
| Adrian Pye | Senior Research Analyst | Enbridge Consumers Gas |
| Doug Reeves | Manager Operations | Sudbury Hydro |
| Marcel Reghelini | Manager, Distribution Regulation | Ontario Hydro Services Co. |
| Mary Ellen Richardson | Consultant | Econalysis Consulting Services |
| John Savage | Advisor, Electricity Operations | Ministry of Energy, Science and Technology |
| Claudio Stefano | Supervisor, Systems Engineering | Great Lakes Power Ltd. |
| Rick Stevenson | Staff Officer | Power Workers' Union |
| Brenda Todman | Officer | Municipal Electric Association |
| Ken Walsh | Senior Manager Engineering Solution | London Hydro |
| Philip Walsh | VP, Gas Supply, Storage and Marketing | CanEnerco |

TASK FORCE MANAGEMENT TEAM

| | | |
|----------------|--------------|---|
| Co-Manager | Michael King | Vice-President, PHB Hagler Bailly Consulting, Inc. |
| Co-Manager | Frank Cronin | Senior Advisor, PHB, Hagler Bailly Consulting, Inc. |
| Coordinator | Judy Kwik | OEB, Research & Policy Analyst |
| Co-coordinator | Edward Sweet | OEB, Regulatory Officer |