Defining & Measuring Performance of Electricity Distributors (EB-2010-0379)

Webinar on Business Conditions

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Background

- Distributor cost performance is assessed using a combined approach of econometric (i.e., statistical) benchmarking and peer group analysis.
  - Total costs will now be analyzed, as opposed to the current approach which analyzes OM&A costs only.
- Empirical work relies on quantified business conditions that may influence a distributor's total costs.
  - Business conditions under which a distributor operates will drive costs; some are strong cost drivers, others are weaker.

Background (cont'd)

- Business conditions must be quantifiable.
  - Using data that is readily available from public and objective sources such as the Board's RRR.
  - Some business conditions can be represented by a '1', '0' such as location on the Canadian Shield.

Preliminary List of Business Conditions

- Number of customers
- kWh of energy delivered
- Demand and capacity utilization
- Kilometers of line
- Kilometers of customer-connected capacity
- Age of plant
- Location-related
- High voltage services
- Low voltage services

Preliminary List of Business Conditions (cont'd)

- For each business condition, we will discuss:
  - Relevance
  - Measurement
  - Data source
  - Other issues?

Number of Customers

- Total Number of Customers (not including unmetered scattered loads, sentinel lights, street lighting)

- Is customer mix important?
  - Should customers be divided into customer rate classes such as:
    - Residential customers and all other customers; or
    - Residential customers, General Service customers and all other customers (including seasonal)?

kWh of Energy Delivered

- Total kWh energy delivered
- Is customer mix important?
  - Should energy delivered be divided into customer rate classes such as:
    - Residential customers and all other customers; or
    - Residential customers, General Service customers and all other customers (including seasonal)?

Demand and Capacity Utilization

- Total billed demand in kWs
- Utility peak load in kWs
  - Should peak load be divided into:
    - Winter peak in kWs;
    - Summer peak in kWs; and / or
    - Maximum peak in kWs?
- Load factor

Kilometers of Line

- By circuit kilometers
- Percentage of kilometers of line that is underground
- Percentage of kilometers of line that is single phase

Kilometers of Customer-Connected Capacity

- Number of customers per kilometers of line
- Number of customers per square kilometer of territory served
- Total service area served in kilometers
  - Should the service area be divided into:
    - Urban area served; and
    - Rural area served?

Age of Plant

- Ratio of accumulated depreciation to gross plant
- Ratio of net plant to gross plant
- Percentage of customers added in the last ten years (i.e., a proxy for plant age)

High Voltage Services

- Cost of owning, operating and maintaining transmission stations relative to total distribution cost
- Number of transmission and distribution substations greater than 50 kV
- Ratio of gross plant for transmission substations greater than 50 kV to total distribution gross plant

Low Voltage Services

- Percentage of kWh of energy delivered to embedded distributors

- Ratio of LV costs to total distribution costs

Location-related

- Canadian Shield (‘0’ or ‘1’)
  - Or should the Canadian shield variable be calculated as a range between ‘0’ and ‘1’ (i.e., a percentage of service territory on shield)?
- Northern territory (‘0’ or ‘1’)
- Urban core (‘0’ or ‘1’)
- Non-contiguous service territory (‘0’ or ‘1’)

Other Business Conditions

- Customer turnover
- Percentage of low-income customers
- Weather (heating degree days, cooling degree days, wind-related, precipitation and percentage of territory that is forested)
- CDM intensiveness
- Rural rate assistance
- Regional unemployment

Data concerns?

Next Steps

- Each business condition will be tested to see whether it has a statistically significant relationship with distributor total costs in Ontario.

- Test will assess validity of including business condition within total cost statistical benchmarking framework.

  - May not be statistically valid to include all business conditions.