

Appendix A

**Scorecard Methodology and Implementation Guide
Component A – Public Awareness of Electrical Safety
November 2015**

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OVERVIEW

This *Methodology & Survey Implementation Guide* is intended to be used as a tool for distributors and their market research firms as they implement their required Public Awareness of Electrical Safety survey as part of the LDC Scorecard for the Ontario Energy Board (OEB)

One of the key objectives of the LDC Scorecard is comparability over time and between distributors. As such, it is imperative that individual distributors execute the Public Awareness of Electrical Safety survey using the same standardized questions and methodological approach.

Within this guide you will find detailed instructions on survey implementation and the distributor's required deliverables to the OEB.

Accompanying this guide are copies of both an online and telephone questionnaire, as distributors have the flexibility to execute the survey using either methodology.

Background

The Electrical Safety Authority (ESA) has been tasked with developing the standardized questions and methodology – for the Public Safety component of the scorecard – in consultation with the OEB and key stakeholders, including distributors.

The ESA commissioned *Innovative Research Group Inc. (INNOVATIVE)* to assist with the development of:

1. standardized questionnaires for online and telephone methodologies; and
2. a standard methodological approach to implementing the survey.

OEB PUBLIC SAFETY AWARENESS SCORECARD

Electricity Distributor Scorecards

To facilitate performance monitoring and distributor benchmarking, the OEB uses a “scorecard” approach to effectively translate outcomes into a coherent set of performance measures. This approach effectively organizes performance information in a manner that facilitates evaluations and meaningful comparisons.

OEB Scorecard Requirements

Performance Outcomes	Performance Categories
Customer Focus: Services are provided in a manner that responds to identified customer preferences.	Service Quality
	Customer Satisfaction
Operational Effectiveness: Continuous improvement in productivity and cost performance is achieved; and distributors deliver on system reliability and quality objectives.	Safety ▶▶
	System Reliability
	Asset Management
	Cost Control
Public Policy Responsiveness: Distributors deliver on obligations mandated by government (e.g., in legislation and in regulatory requirements imposed further to Ministerial directives to the Board).	CDM Delivery
	Connection of Renewable Generation
Financial Performance: Financial viability is maintained; and savings from operational effectiveness are sustainable.	Financial Ratios

Scorecard Objectives

The ESA and OEB developed a **standard survey methodology** for use as one of three components of a Public Safety scorecard measure for distributors to ensure consistency in practice throughout the industry.

ESA’s Objectives:

- (a) To ensure compliance with the OEB’s regulatory requirements; and
- (b) To drive continuous improvement in the level of public awareness of safety precautions related to electricity.

STANDARDIZED QUESTIONNAIRE DESIGN

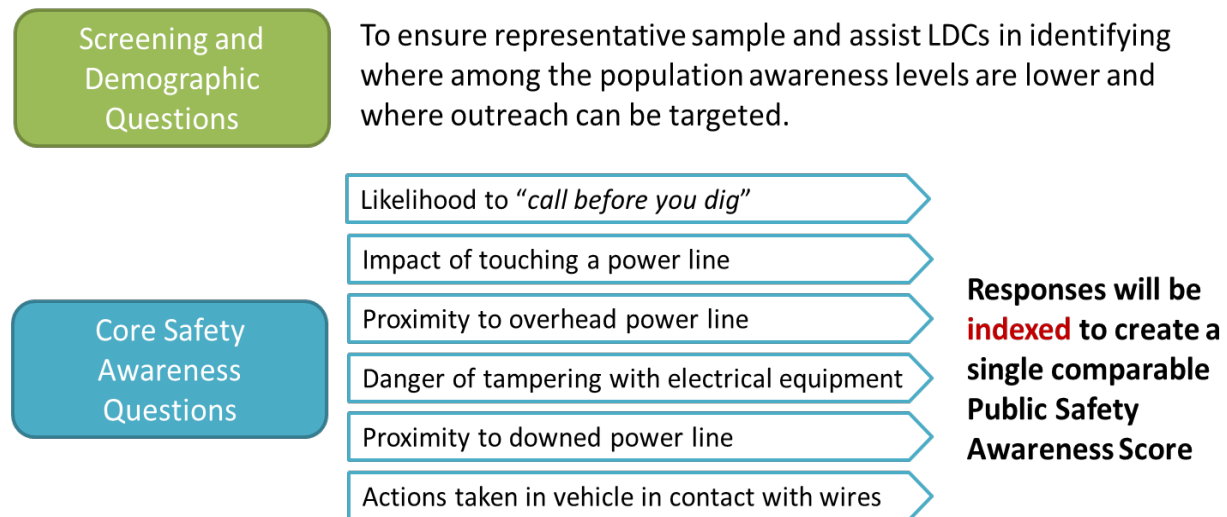
The standardized questions have been designed specifically to focus on public awareness related to the electrical incidents (fatalities, critical injuries and injuries) involving utility equipment that have most frequently occurred in Ontario in the last decade.

Consultation Process

The drafting and refinement of the standardized questionnaire and its implementation requirements was a collaborative process between the ESA and key stakeholders, including LDCs, the OEB and participants in the public consultation.

Standardized Questionnaire Structure

The standardized Public Awareness of Electrical Safety questionnaire consists of 14 questions in total and is structured as follows:



1. **Screening questions:** to ensure an LDC surveys the proper person: an adult over the age of 18 that *currently resides* in the distributor's service territory.
2. **Core measurement questions:** these are questions that correspond to the six most frequent incidents involving utility equipment in Ontario over the last decade.
3. **Demographics questions:** to understand the unique characteristics and profile of respondents and to weight the sample according to latest Statistics Canada data to achieve a representative sample of an LDCs service territory.

NOTE: Distributors are welcome to include their own custom questions in their surveys. Any custom question *must follow* the core Public Safety Awareness questions. Answers to these questions would remain proprietary to the distributors and would not need to be shared with the OEB.

SURVEY IMPLEMENTATION REQUIREMENTS

In addition to following a standardized set of questions, distributors will also need to follow standard approaches to executing their Public Awareness of Electrical Safety survey to ensure consistency in reporting and comparability of results.

Representative Sample Requirements

Given the OEB requirements that a distributor survey samples should be representative of its service territory population, distributors will need to follow standard public opinion research methods. But how do LDCs satisfy the question that intervenors or the OEB may ask: “How do we know that the survey results are representative of the LDC’s service territory population?”

When surveying the public, as is the case in this survey, your market researcher will need to set quotas or apply weights based on the target population’s **age** and **sex** by **region**.

Note: Region is often defined within an LDC’s service territory by infrastructure considerations, unique geography, or political boundaries (i.e. different municipalities). However, in instances where there are no distinguishable differences in populations by region, the addition of this sub-categorization may not be required.

Setting quotas to reflect a stratified sampling approach is common practice among market research firms.

Requirement: Set quotas and survey weights based on Statscan’s latest census data to reflect the demographic composition of the general population residing in an LDC’s service territory

Field Execution Requirements

Consistency in survey execution among LDCs is important for comparability and representation of the public.

What’s not appropriate for the execution of this survey? Voluntary online polls on a distributor’s website would not be appropriate as these would not generate a representative sample of the population.

Telephone vs. Online Surveys. Respondents often answer the same questions differently under each survey environment. As such, the standardized questionnaire has been designed to minimize this effect – both in an online and telephone environment. The question responses for both surveys are identical, thus increasing comparability. Each distributor is unique, and allowing flexibility in methodology can help reduce costs while remaining comparable across the sector.

Requirement: LDCs have the flexibility to choose between the telephone and online approach most feasible given LDC size and resources, *as long as this same approach is used each year by the LDC for comparison purposes.*

Sample Size Requirements

Requirement: Given the OEB's requirement for generalizable data that is both comparable over time and across the sector, a **minimum sample size of n=400** is required.

Note: Distributors are welcome to increase their sample size of respondents beyond the required minimum of n=400.

Should a distributor have a small population in their service territory, exceptions to the required sample size will be made.

As a general rule of thumb in market research: when surveying the general population by telephone, one should expect a 15:1 ratio for a completed survey. That means, for every 15 calls, only one respondent is expected to complete the survey. This reality poses problems for some smaller LDCs with a small population to draw upon.

- For LDCs with a service territory population of less than 5,000, a minimum sample size of n=300 is appropriate.
- For LDCs with a service territory population of less than 3,000, a sample size of n=200 is appropriate.

REQUIRED OEB DELIVERABLES

Public Awareness of Electrical Safety Index Score

While other deliverables may be required of distributors following the execution of their surveys, at minimum each distributor must calculate and submit its *Public Awareness Of Electrical Safety Index Scores* for their service territory population.

For the purpose of comparability, the same index score methodology is applied for each distributor. A total of **6 key measurement questions** are scored between 0 and 1 and form the basis of the *Public Safety Awareness Index*.

For each individual respondent, their “scored” responses to each of the key measurement questions are added (bound between 0 and 6 or 0 and 5 in some instances²) and divided by the number of relevant sections, which creates an individual value for each respondent bound between 0 and 1.

All individual respondent values are then added together, divided by the sample size (total number of respondents) and finally, multiplied by 100. This will result in a *Public Safety Awareness Index Score* bound between 0-100% where 0% means complete unawareness of electrical safety and 100% mean full awareness of electrical safety related to the 6 core measures.

This **index score** is calculated using the following formulas:

Step 1: Add each individual respondent’s key measurement questions using the provided response values.

$$\begin{array}{rcl} & & \text{B5} \\ + & & \text{B6} \\ + & & \text{B7} \\ + & & \text{B8} \\ + & & \text{B9} \\ + & & \text{B10} \\ = & & \text{Individual respondent's cumulative score} \end{array}$$

Step 2:

Individual respondent’s cumulative score / # of sections
= Respondent Standardized Score

Step 3:

Summation of all “**Respondent Standardized Scores**” / n-size (i.e. total sample size)
= Raw Index Score

Step 4:

Raw Index Score × 100 = Index Score (bound between 0-100%)

² In some cases, a respondents will have no intention of undertaking a project that requires digging. In this case, the index is based on only the five relevant sections of scorecard. This question will be removed from the calculation.

All section points bound between 0 and 1

- Likelihood to “call before you dig” 0 to 1pts
- Impact of touching a power line 0 to 1pts
- Proximity to overhead power line 0 to 1pts
- Danger of tampering with electrical equipment 0 to 1pts
- Proximity to downed power line 0 to 1pts
- Actions taken in vehicle in contact with wires 0 to 1pts

Step 1



Add all section values for individual survey respondents = **Individual Respondent's Cumulative Score**

Step 2



Divide **Individual Respondent's Cumulative Score** / 6 “core” sections = **Respondent Standardized Score**

Step 3



Summation of all **Respondent Standardized Scores** / n-size = **Raw Index Score**

Step 4



Raw Index Score x 100 = **Public Safety Awareness Index Score** (Bound between 0-100%)

Index Score Response Values

The **6 key measurements** should be scored using the following response values.

Likelihood to “call before you dig”

B5. If you were to undertake a household project that required digging – such as planting a tree or building a deck – how likely are you to call to locate electrical or other underground lines?

Code	Response	Score
01	Definitely	1.00pts
02	Very likely	0.75pts
03	Somewhat likely	0.50pts
04	Not very likely	0.00pts
05	Not at all likely	0.00pts
06	I would not undertake a project that required digging	Omitted
98	Don't know	0.00pts

Impact of touching a power line

- B6. How dangerous do you believe it is to touch - with your body or any object - an overhead power line?

Code	Response	Score
01	Very dangerous	1.00pts
02	Somewhat dangerous	0.50pts
03	Not very dangerous	0.00pts
04	Not at all dangerous	0.00pts
98	Don't know	0.00pts

Proximity to overhead power line

- B7. When undertaking outdoor activities – such as, standing on a ladder, cleaning windows or eaves, climbing or trimming trees – how closely do you believe you can safely come to an overhead power line with your body or an object? Would you say...

Code	Response	Score
01	You can safely touch an overhead power line	0.00pts
02	Less than 1 metre (i.e. less than 3 feet)	0.00pts
03	1 to less than 3 metres (i.e. 3 to less than 10 feet)	0.00pts
04	3 metres to less than 6 metres (i.e. 10 feet to less than 20 feet)	1.00pts
05	You should maintain a distance of 6 metres or more (i.e. 20 feet or more)	0.75pts
98	Don't know	0.00pts

Danger of tampering with electrical equipment

- B8. Some electrical utility equipment is located on the ground, such as locked steel cabinets that contain transformers.

How dangerous do you believe it is to try to open, remove contents, or touch the equipment inside? Would you say...

Code	Response	Score
01	Very dangerous	1.00pts
02	Somewhat dangerous	0.50pts
03	Not very dangerous	0.00pts
04	Not dangerous at all	0.00pts
98	Don't know	0.00pts

Proximity to downed power line

- B9. How closely do you believe you can safely come to a downed overhead power line, such as a downed line caused by a storm or accident? Would you say...

Code	Response	Score
01	You can safely touch a downed overhead power line	0.00pts
02	Less than 1 metre (i.e. less than 3 feet)	0.00pts
03	1 to less than 5 metres (i.e. 3 to less than 16 feet)	0.00pts
04	5 metres to less than 10 metres (i.e. 16 feet to less than 33 feet)	0.00pts
05	You should maintain a distance of 10 metres or more (i.e. 33 feet or more)	1.00pts
98	Don't know	0.00pts

Actions taken in vehicle in contact with wires

- B10. If you were in a vehicle – such as a car, bus, or truck – and an overhead power line came down on top of it, which of the following options do you believe is generally safer?
[READ LIST; ROTATE response codes 1 and 2]

Code	Response	Score
01	Get out quickly and seek help	0.00pts
02	Stay in the vehicle until power has been disconnected from the line	1.00pts
98	Don't know	0.00pts