

Ontario Energy Board

Staff Discussion Paper

**on Defining & Measuring Performance of
Electricity Transmitters & Distributors**

EB-2010-0379

November 8, 2011

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Executive Summary

In its October 27, 2010 letter to stakeholders the Ontario Energy Board (the “Board”) described the context for a renewed framework for electricity transmitters and distributors, acknowledging that need for significant investment in the sector and concerns over bill increases are leading to a sharper focus on the total cost to consumers. This is discussed in more detail in an attachment to the Board’s cover letter for this paper.

On December 17, 2010, the Board initiated a coordinated consultation process for a number of inter-related policy initiatives with respect to network planning, rate mitigation and network utility performance.

Defining and measuring performance is the subject of this paper. This initiative will assist the Board’s determination of its policies in relation to performance measures and the role of such measures in the Board’s setting of rates. This paper describes the regulatory foundations in place for performance-based regulation, identifies issues for consideration, and illustrates potential options to refine the use of performance-based regulation for electricity transmitters and distributors.

Staff has prepared this paper to solicit comment from all interested stakeholders on alternative ways of setting standards for performance and providing appropriate incentives to transmitters and distributors. Examples are provided to facilitate consultations; staff does not make recommendations or express preferences.

This paper has been prepared by staff with the advice of its expert consultant, Dr. Lawrence Kaufmann and Pacific Economics Group Research (“PEG”). Dr. Kaufmann has prepared a supporting paper entitled “Defining, Measuring and Evaluating the Performance of Ontario Electricity Networks: A Concept Paper” which provides a summary of research and expert advice.

This paper includes illustrations from a new regulatory framework being implemented by The United Kingdom's Office of Gas and Electricity Markets ("Ofgem"), known as the RIIO¹ Model. In staff's view, Ofgem's model considers many of the challenging issues that Ontario faces and illustrates one approach for addressing the issues. Staff believes that this consultation process could be productively informed by Ofgem's work.

This paper identifies a number of issues for stakeholder comment in relation to the following topics:

- What should the Board consider when setting new or refining existing standards for service and/or cost performance for distributors and transmitters?
- What should the Board consider when developing appropriate incentives to transmitters and distributors for cost-effective and efficient performance, including appropriate rewards for exceeding the standards?
- What should the Board consider in relation to when and how it assesses utility performance?

The paper also describes various approaches to measurement (including benchmarking), standards setting, and incentives that could be used to assess utility performance and link consequences to measured performance.

¹ Revenue using Incentives to deliver Innovation and Outputs

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1 Introduction

In its October 27, 2010 letter to stakeholders (the “October 27th Letter”), the Ontario Energy Board (the “Board”) described the context for a renewed framework for electricity transmitters and distributors, acknowledging that need for significant investment in the sector and concerns over bill increases is leading to a sharper focus on the total cost to consumers. This is discussed in more detail in an attachment to the Board’s cover letter for this paper.

*The Board’s
October 27, 2010
letter to
stakeholders*

On December 17, 2010, the Board initiated a coordinated consultation process for a number of inter-related policy initiatives. One initiative will examine the Board’s existing approach to network investment planning by distributors (the “Planning Initiative”); another initiative will review the Board’s rate mitigation policy (the “Mitigation Initiative”); and another initiative will examine ways to define and measure performance (the “Performance Initiative”). While the Planning Initiative focuses on distribution, the latter two initiatives include transmission. Other related initiatives will address matters with respect to Smart Grid and Regional Planning.

A stakeholder consultation meeting was held on February 2, 2011 at which Board staff (“staff”) made presentations describing the context in which policies will be developed, potential guiding concepts for the work, potential issues to be considered, and an approach to the upcoming consultations. The purpose of the meeting was to provide all interested stakeholders with an opportunity to exchange ideas with staff and each other on the scope of the Planning, Mitigation, and Performance Initiatives and to provide greater detail on the planned consultation.

*February 2, 2011
Stakeholder
Meeting*

This coordinated consultation process will lead to the issuance of Board policies in relation to the topics of network planning, rate mitigation and network utility performance in a renewed regulatory framework for electricity. Any amendments to Board documents (e.g., filing requirements) that may be required or desirable to give effect to the policies would be addressed subsequently.

How information from this coordinated consultation process will be used

With respect to the Performance Initiative this coordinated consultation process will assist the Board's determination of its policies in relation to performance measures and the role of such measures in the Board's setting of rates whether through a cost of service review or through a multi-year rate adjustment mechanism or as part of a specific application.

The Performance Initiative

Performance is an important goal of economic regulation. As the Board continues its focus on how well the utilities across the province achieve results, it needs to continue to improve its approaches to measuring results.

Overview of this Paper

The Performance Initiative is the subject of this paper. Staff has prepared this paper to solicit comment from all interested stakeholders on alternative ways of setting standards for performance and providing appropriate incentives to transmitters and distributors. Examples are provided to facilitate consultations; staff does not make recommendations or express preferences. Staff notes that conventional approaches continue to be appropriate and are central to the Board's regulation. The concepts and ideas set out in this paper, if implemented, would build on the

Board's existing regulatory framework. Such an approach ensures that regulation evolves along with the sector.

This paper has been prepared by staff with the advice of its expert consultant, Dr. Lawrence Kaufmann and Pacific Economics Group Research ("PEG"). Dr. Kaufmann will continue to provide advice to staff throughout this consultation. Dr. Kaufmann's concept paper entitled "Defining, Measuring and Evaluating the Performance of Ontario Electricity Networks: A Concept Paper" (the "Concept Paper") provides a summary of research and expert advice on matters such as:

*Dr. Lawrence
Kaufmann and
PEG advising*

- setting standards for utility service and/or cost performance in theory and in practice;
- providing appropriate incentives to achieve these standards and reward performance which exceeds these standards;
- measuring standards and integrating incentives into rate-making (whether through a cost of service review or through a multi-year rate adjustment mechanism);
- standards and incentives used in other jurisdictions and regulated network industries; and
- alternative approaches to reviewing utility performance (including requirements of information and analyses needed to support such reviews).

The Concept Paper is available on the Board's web site.

Staff invites comment from stakeholders in order to provide it and the Board with a thorough analysis of alternatives and requisite issues.

Organization of this Paper

The paper is organized as follows. The context for this work and the guiding concepts used by staff to help frame the development of a renewed regulatory framework for electricity are outlined in the attachment to the Board's cover letter for this paper. Chapter 2 summarizes the foundations already in place with respect to defining and measuring performance of electricity distributors and transmitters. Chapter 3 proposes a set of working definitions to assist consultations and discusses specific issues for consideration. Chapter 4 outlines options for potential refinement to the foundations in place including options that Dr. Kaufmann highlights in his Concept Paper. The Discussion Paper identifies a number of issues for stakeholder comment throughout, and Appendix A provides a summary list of these issues.

Portions of this paper quote heavily from the United Kingdom's Office of Gas and Electricity Markets ("Ofgem") RPI-X@20 Ofgem's Handbook for Implementing the RIIO Model, issued on October 4, 2010 (the "RIIO Handbook"), which set out details in relation to implementation of a new regulatory framework, known as the RIIO² Model. In staff's view, Ofgem's model considers many of the challenging issues that Ontario faces and illustrates one approach for addressing the issues. While staff recognizes the need to ensure that any approaches adapted from other jurisdictions are suited to the Ontario context, staff believes that this consultation process could be productively informed by Ofgem's work. For convenience, a summary of referenced highlights of the RIIO Handbook are provided in Appendix B.

² Revenue using Incentives to deliver Innovation and Outputs

2 Foundations in Place for Performance-Based Regulation

In the October 27th Letter, the Board stated that “[i]t is important to the sector that the Board’s regulatory framework sets appropriate standards for performance and efficiency and rewards distributors and transmitters that exceed these standards.”

The Board has regulated the Ontario electricity sector since 1999 and is responsible for licensing all participants in Ontario’s electricity market, including: generators; transmitters; distributors; wholesalers; retailers; the Independent Electricity System Operator; the Smart Metering Entity; and the Ontario Power Authority. Under the Board’s licensing regime, persons licensed by the Board must comply with all of the conditions of their licence, including compliance with any of the codes listed in their licences.

*Regulatory context
for electricity
transmitters and
distributors in
Ontario*

In the past, the Board has changed its approach to regulation on an incremental basis in response to the evolving electricity sector and the legislation that governs it. To help establish common understanding in these consultations of the regulatory context for electricity transmitters and distributors in Ontario, a brief overview of the existing regulatory foundation is provided below.

The Board oversees electricity transmission in Ontario with inputs, where applicable, from other agencies and standards bodies, including the Ontario Independent Electricity System Operator (“IESO”), the North American Electric Reliability Corporation and

the Northeast Power Coordinating Council. A summary³ of some of the governing standards and codes and the Board’s regulatory guidelines for electricity transmitters is provided in Figure 1.

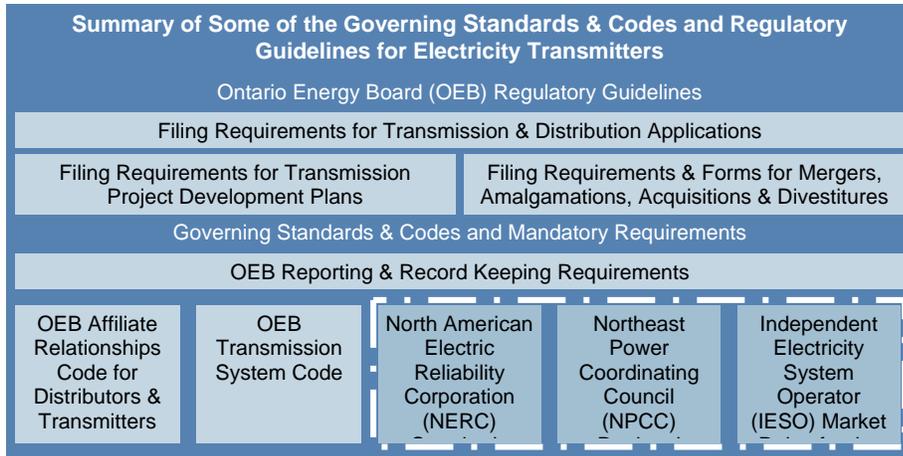


Figure 1: Electricity Transmission

A summary of some of the governing standards and codes and the Board’s regulatory guidelines for electricity distributors is provided in Figure 2 on the next page.

³ Figure 1 and Figure 2 are provided for summary purposes only. The size and placement of boxes in the figures should not be interpreted as being indicative of the relative importance of the information in the boxes. In general, mandatory requirements are in the lower portions of the figures; guidelines are in the upper portions. While the summaries are not intended to be exhaustive, they provide an overview of the regulatory contexts for electricity transmitters and distributors in Ontario.

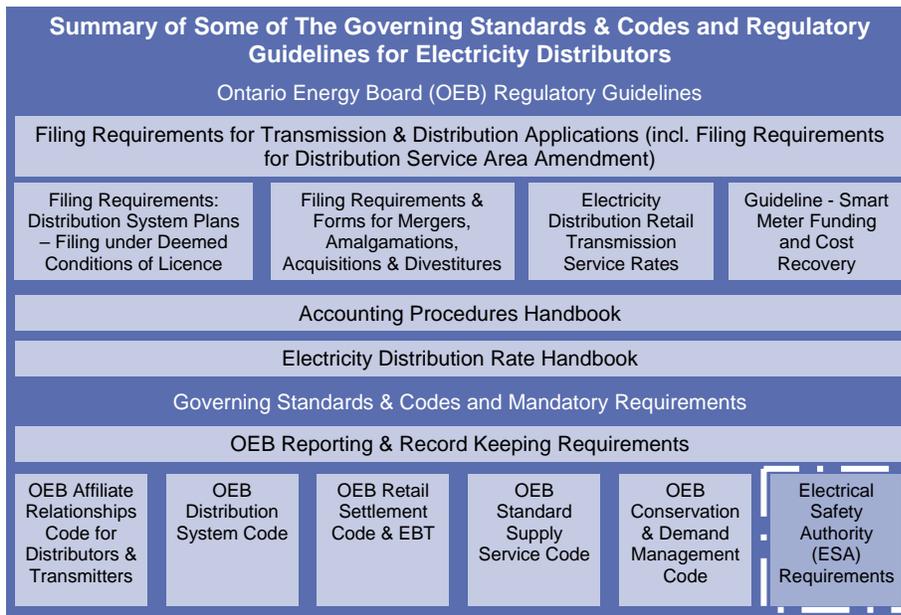


Figure 2: Electricity Distribution

2.1 Conditions of Licence Set Out Minimum Requirements

The codes identified in Figure 1 and Figure 2, set out minimum requirements for licensed electricity transmitters and distributors, as applicable in relation to various regulated activities and in relation to interactions with unregulated affiliate companies. Compliance with the Board’s codes is a condition of license and non-compliance is subject to a compliance review process.

Codes set out minimum requirements

For the purposes of this paper, staff considers the requirements set out in a transmitter’s or distributor’s license, including the requirements set out in the relevant codes, to be the minimum standards in the context of defining and measuring performance. As such, for regulatory purposes, these minimum requirements establish core performance standards for transmission and distribution businesses.

Core performance standards

2.2 Service Quality Regulation

The Board has implemented a “standards approach” to service quality requirements for **electricity distributors**. Distributors are currently required to comply with provisions in the Distribution System Code on the following Customer Service Indicators:

*Electricity
distribution
customer service
indicators*

- Connection of New Services;
- Appointment Scheduling;
- Appointments Met;
- Rescheduling a Missed Appointment;
- Telephone Accessibility;
- Telephone Call Abandon Rate;
- Written Response to Enquiries; and
- Emergency Response.

Under the “standards approach”, compliance with the performance standard is mandatory and can be enforced through the Board’s compliance process.

The Board has implemented a “monitoring approach” to system reliability for electricity distributors. Distributors monitor the following System Reliability Indicators on a monthly basis and report on them annually and in their rate applications to the Board:

*Electricity
distribution
system reliability
indicators*

- System Average Interruption Frequency Index (SAIFI);
- System Average Interruption Duration Index (SAIDI); and
- Customer Average Interruption Duration Index (CAIDI).

The Board asks distributors that have the systems capability that enables them to capture or measure Momentary Average Interruption Frequency Index (MAIFI) to file that information also.

In 2010, the Board initiated a consultation process (EB-2010-0249) on the further development of regulatory requirements associated with electricity distribution system reliability. On March 31, 2011, the Board issued a letter outlining the next stage in the initiative. With that letter, a Board Staff Report to the Board was released which documents the consultation to date and sets out Board staff's recommendations to the Board. In the March 31, 2011 letter, the Board reiterates its commitment to the codification of system reliability measures and performance targets. Accepting the recommendations set out in the Staff Report, the Board concluded in the March 31, 2011 letter that further consultations are warranted in relation to: (i) data issues; and (ii) the potential introduction of new elements recommended by staff (normalization of data, causes of outages, customer specific measures and performance targets, and a "Worst Performing Circuit" measure).

*On-going
consultations on
further
development of
electricity
distribution
system reliability
regime*

Electricity transmission service quality is generally addressed in the context of Transmission Revenue Requirement & Rate Application proceedings.

*Electricity
transmission*

2.3 Rate Regulation

In the context of rate regulation, the Board's responsibility is to set rates that are just and reasonable. The legislative framework provides the Board the discretion to select the most appropriate approach to rate-setting. The Board's statutory objectives are set out in section 1 of the *Ontario Energy Board Act, 1998*.

The Board rate regulates more than 80 **electricity distributors**. In 2006, the Board established an electricity distribution rate plan to, among other matters, divide distributor rate re-basing reviews beginning in 2008 into three yearly tranches (i.e., ~30 distributors per year starting in 2008). As any rate-related studies and methodologies are reviewed and completed (e.g., cost allocation, cost of capital, depreciation studies, etc), the implementation of new methodologies occur at the regularly scheduled interval for the distributors. In between rate re-basing reviews, distributors are subject to incentive regulation rate reviews.

*Electricity
distribution rate
plan*

The Board rate regulates six **electricity transmitters**. Uniform transmission rates for the province are set based on the combined costs underpinning individual transmission company revenue requirements which have been approved by the Board in cost of service rate (i.e., rate rebasing) application proceedings.

*Electricity
transmission*

2.3.1 Rate Rebasing

Rate rebasing reviews for Ontario **electricity transmitters and distributors** are carried out upon receipt by the Board of cost of service rate applications based on the Board's "Filing Requirements for Transmission and Distribution Applications". Applicants are expected to file for cost of service rate applications based on a forward test year.

The rates approved by the Board are set to recover the company's forecasted costs which it will incur to provide regulated services. Rate reviews are held periodically in which estimates are made for the test year costs in relation to capital, labor, and other inputs that

*Overview of
traditional cost of
service regulation*

are used to provide regulated services. This becomes the company's base rate revenue requirement.⁴

2.3.2 Incentive Regulation

The Board has employed incentive regulation since it began regulating the sector. The incentive regulation plan currently in place for setting rates for Ontario's **electricity distributors** is the Board's third plan for distributors and was established in 2008. The plan contains innovative applications of benchmarking and the use of an optional incremental capital module that are designed to promote efficient utility behaviour yet be flexible enough to accommodate diversity in companies' investment requirements.

At the core of the plan is an "inflation minus X-factor" price-cap form of rate adjustment mechanism. The Board determined that the X-factors for individual distributors would consist of an empirically derived industry productivity trend (productivity factor) and stretch factor.

The productivity factor is set based on estimated total-factor productivity ("TFP") for the distribution sector. Development of an Ontario-specific TFP trend was hindered by a lack of data covering a sufficient period of time; thus at present the trend is based on U.S. data. The Board decided to use the U.S. data as an interim step in developing the productivity factor for Ontario's electricity distributors until such time as Ontario specific data becomes available.

*Productivity factor
based on
estimated TFP*

⁴ Excerpt from the June 13, 2006 report prepared for staff by the Pacific Economics Group entitled "Second Generation Incentive Regulation for Ontario Power Distributors"

Differentiated stretch factors are also a feature of the plan. Benchmarking provides the architecture for the annual assignment of stretch factors to distributors. The sector is divided into three different efficiency cohorts based on OM&A benchmarking studies, with lower stretch factors for more efficient firms. Efficiency is determined using two benchmarking models which lead to an approximate “bell curve” distribution of efficiency rankings. The Board determined the following stretch factor values for the three groups:

Table 1: 3rd Generation Incentive Regulation Plan Stretch Factor Values

Group	Benchmarking Evaluations	Stretch Factor
1	Statistically superior on the econometric benchmarking model and in the top quartile on the unit cost benchmarking model	0.2%
2	All other distributors, including those that rank superior or inferior in only one of the evaluations	0.4%
3	Statistically inferior on the econometric benchmarking model and in the bottom quartile on the unit cost benchmarking model	0.6%

The benchmarking models are primarily based on OM&A data (the most recent three years) due to a lack of capital additions data covering a sufficient period of time. This approach to tailoring the X-factor to reflect differences in productive efficiency provides a foundation for more comprehensive (i.e. total cost) benchmarking in the future.

The development of the next incentive regulation plan for electricity distributors will be informed by this initiative (i.e., on defining and measuring performance).

2.3.2.1 *Rate-making Associated with Distributor Consolidation*

The Board issued its “Report of the Board on Rate-making Associated with Distributor Consolidation” on July 23, 2007. That report sets out the Board’s policy on rate-making issues in the context of certain transactions in the electricity distribution sector that may be associated with consolidation. As stated in that report, the Board’s approach builds on and complements the work of the Board in relation to incentive regulation, and addresses the issues in a manner that does not unnecessarily increase the effort of distributors or other interested parties.

*Rate-making
associated with
distributor
consolidation*

Among other matters, the Board determined that distributors that apply to the Board for approval of a consolidation transaction may propose to defer the rate rebasing of the consolidated entity for up to five years from the date of closing of the transaction. The Board notes in the report that allowing flexibility on the timing of rebasing in combination with the Board's existing price cap incentive regulation gives a consolidated entity time to retain savings to offset costs while protecting the interests of consumers.

*Time to retain
savings to offset
costs*

2.3.2.2 *The Regulatory Treatment of Infrastructure Investment*

The Board issued its “Report of the Board on the Regulatory Treatment of Infrastructure Investment in connection with the Rate-regulated Activities of **Distributors and Transmitters** in Ontario” in 2010.

*To facilitate
appropriate
infrastructure
investment*

The alternative cost recovery mechanisms identified in the report include:

Accelerate cost recovery and incentive mechanisms

- Accelerated cost recovery mechanisms: construction work in progress (“CWIP”) and pre-commercial expenses, and adjusting depreciation; and
- Incentive mechanisms: project-specific return on equity and project-specific capital structure.

The regulatory framework set out in the report builds on the Board’s existing framework by augmenting “conventional” cost recovery mechanisms with a range of “alternative” cost recovery mechanisms designed to facilitate appropriate infrastructure investment by distributors and transmitters.

2.4 Empirical Tools

The Board’s regulatory oversight of electricity transmitters and distributors is supported by regulatory reporting and record-keeping requirements and benchmarking.

2.4.1 Regulatory Reporting and Record-Keeping

The Electricity Reporting and Record Keeping Requirements (“RRR”) set the minimum reporting and record keeping requirements with which a licensee must comply. Other reporting and record keeping requirements specific to a licensee may also be contained in codes, individual licences or regulatory instruments specific to a licensee (for example, in a rate order).

Most of the information filed is placed on the public record and therefore is available to any person to review. A limited amount of information is treated in confidence by the Board.

For electricity distributors, RRR data provided regularly to the Board includes accounting and financial data, service territory statistics, service quality indicator data, and affiliate transaction information.

RRR data provided regularly

For electricity transmitters, information regularly provided to the Board includes certain deferral account balances and affiliate transaction information. The scope of information filed by transmitters is smaller than electricity distributors. Development of electricity transmission reporting requirements may be considered in the future.

Since 2005, the Board has published annual Yearbooks of Electricity Distributors and Yearbooks of Natural Gas Distributors which provide interested parties and the general public with financial and operational information collected from distributors. Information presented in the Yearbooks is compiled from data submitted through the RRR.

Yearbooks of Electricity Distributors and Yearbooks of Natural Gas Distributors

2.4.2 Benchmarking

Building on **electricity distribution** sector work that was started in 2005 on the potential use of “comparators and cohorts” analyses for the purposes of informing rate rebasing proceedings, staff began a consultation process on the comparison of distributor costs

Electricity Distribution

in November, 2006. Board staff retained expert consultants, who used data provided by staff to stakeholders as the basis of the benchmarking work. The resultant report released in March 2008, entitled “Benchmarking the Costs of Ontario Power Distributors“ features benchmarking models that continue to be used by the Board in setting rates for electricity distributors under the Board’s incentive regulation plan discussed in section 2.3.

At the February 2nd stakeholder meeting, staff discussed whether the framework for defining and measuring performance would consider company diversity and variable timeframes on potential performance options to reflect the varying levels of utility investments, utility size and utility investment plans. The Board has endeavoured to establish a regulatory framework that features benchmarking for the electricity distribution sector which accounts for differences amongst electricity distributors. Staff believes that developing a renewed framework should appropriately build on this work. Staff also notes that in its July 14, 2008 Report of the Board on 3rd Generation Incentive Regulation for Ontario’s Electricity Distributors (EB-2007-0673), the Board anticipated important refinements by 2012 to empirical work on the electricity distribution sector, including total cost benchmarking, an Ontario total factor productivity (“TFP”) study, and input price trend research. In its January 28, 2009 Addendum Report of the Board on 3rd Generation Incentive Regulation for Ontario’s Electricity Distributors (EB-2007-0673), the Board advised stakeholders that it expects to begin work on the development of total cost benchmarking over the course of the 3rd Generation IR, that it will carry out its review in consultation with stakeholders, and that the review is to include matters already identified by stakeholders earlier in the EB-2007-0673 consultation process.

Recognition of distributor diversity

Future plans to develop an Ontario TFP and total cost benchmarking

Benchmarking has also been carried out by the province's largest **transmitter**, Hydro One Networks. In its 2009-2010 Revenue Requirement & Rate Application (EB-2008-0272) to the Board, Hydro One Networks included information on and the results of benchmarking studies that it had carried out in response to prior Board direction. In that application, Hydro One reported that it "commissioned execution of a benchmark study of its transmission operations, designed to compare performance of large transmission operators on a range of performance indicators including costs, reliability and safety. In addition, the study was designed to investigate the state of the industry with respect to workforce productivity measurement and ultimately, productivity levels achieved by the large transmission operators."⁵ Hydro One also noted that "these benchmarking studies have begun an evolution toward a more comparative basis for understanding the performance of Hydro One."⁶

*Hydro One
Networks'
Transmission*

The Board used a benchmarking approach in its EB-2009-0326 proceeding on the determination and implementation of a distribution rate for embedded generators having a nameplate capacity of 10 kW or less. In the Board's February 23, 2010 Decision and Order (the "Decision"), the Board found that a single, province-wide fixed monthly charge for all electricity distributors would be determined, based on the customer weighted average of nine cost elements determined by the Board to be appropriate for this purpose. To enable it to determine the level of the province-wide fixed monthly charge, the Board ordered distributors to

*Benchmarking to
set a single
province-wide
regulated charge*

⁵ EB-2008-0272 Hydro One Networks Inc., 2009-2010 Transmission Revenue Requirement & Rate Application Exhibit A, Tab 15, Schedule 2, p. 1.

⁶ Ibid. p. 2.

provide the value of each of the cost elements. In the interests of practicality, the Board decided that the calculated rate would be acceptable if it were based on input representing at least one third of the electricity distributors and at least one half of all residential electricity customers in the province. The Board received cost element values sufficient to meet this requirement and used the data to calculate the monthly charge in accordance with the Board's Decision. The resultant province-wide fixed monthly charge for all electricity distributors related to the microFIT Generator rate class was set and approved by the Board on March 17, 2010 at \$5.25 per month.

2.5 Performance Reviews

The timing and context for potential reviews by the Board of electricity transmitter or distributor performance is discussed below in no particular order.

*Timing and
context for reviews*

The contexts for reviews include audit, compliance and potentially enforcement, policy development, and in response to applications from transmitters and distributors.

2.5.1 Audit Reviews

The Regulatory Audit & Accounting unit monitors the financial performance of the electricity and gas sectors in Ontario, performs an annual risk assessment of the regulated entities to inform the audit planning process, and conducts audits related to the financial and non-financial performance of regulated entities.

*Monitoring of
financial
performance*

Monitoring and risk assessment are done in part by analyzing, assessing and interpreting both financial and other performance information provided to the Board by regulated entities, consumers and stakeholders through the Board's RRR processes and/or Board proceedings.

The results of individual audits are shared in draft, for confirmation of factual accuracy, with the audited entity. The auditor's views are finalized and, where applicable, the report is provided to the management of the audited entity for formal response and inclusion of an action plan developed by the audited entity. The results of engagements are reported to the Board. Where findings are of a compliance nature, they are referred to a compliance process.

2.5.2 Compliance and Enforcement Policy and Process

The goal of compliance and enforcement is to ensure adherence to statutory and regulatory requirements that have been established to protect the interests of consumers and other market participants.

Compliance Process

As part of its compliance process, the Board: (a) monitors whether regulated companies adhere to their core performance standards; (b) works cooperatively with regulated companies to ensure they understand and meet their core performance standards; (c) investigates allegations of non-compliance; and (d) undertakes enforcement action where appropriate. Board staff also strives to: (a) provide information and guidance to regulated companies about the core performance standards; (b) identify and report emerging

Monitoring of adherence to “core performance standards”

policy issues to the Board; and (c) recommend amendments to regulatory requirements where appropriate.

The Board has also used self-certification processes to ensure compliance (e.g., Affiliate Relationships Code compliance certification) and to facilitate timely implementation of certain policy objectives (e.g., Ontario retail electricity market readiness, Green Energy Act implementation readiness, and monthly reporting requirements in relation to smart meter deployment and the application of time-of-use pricing).

*Self-certification
processes*

Issues brought to the Board's attention proceed through an initial fact-finding, review, and assessment process. Compliance matters may be resolved through: established processes for handling consumer complaints; informal resolution involving Board staff; or assurance of voluntary compliance (as per section 112.7 of the Act). An issue may also be referred to the Board where it is necessary to clarify an existing policy or to develop a new policy relating to applicable regulatory requirements. Where an issue cannot be resolved, Board staff may recommend enforcement action pursuant to Part VII.1 of the Act.

*Compliance
reviews*

Enforcement Process

The objective of the enforcement process is to hold accountable persons who breach their statutory or regulatory requirements. Enforcement may be pursued for non-compliance with a statutory or regulatory requirement that has not been resolved through means other than enforcement.

As a result of an enforcement hearing, if the Board is satisfied that a person has contravened, or is likely to contravene, an enforceable provision, the Board may make an order requiring the person to come into compliance. Where the Board is satisfied that a person has contravened an enforceable provision, the Board may make an order suspending or revoking the licence, or make an order requiring a person to pay an administrative penalty.

Board may make an Order

Regulation 331/03, made pursuant to the Act, establishes rules for determining the amount of an administrative penalty for a contravention of an enforceable provision and provides the following schedule of ranges of administrative penalties:

Administrative penalties

Table 2: Ranges of Administrative Penalties

		Deviation from the requirements of the enforceable provision that was contravened		
		Major	Moderate	Minor
Potential to adversely affect consumers, persons licensed under the Act or other persons	Major	\$15,000 - \$20,000	\$10,000 - \$15,000	\$5,000 - \$10,000
	Moderate	\$10,000 - \$15,000	\$5,000 - \$10,000	\$2,000 - \$5,000
	Minor	\$5,000 - \$10,000	\$2,000 - \$5,000	\$1,000 - \$2,000

In imposing an administrative penalty, the Board is required to determine whether the contravention was a major, moderate or minor deviation from the requirements of the enforceable provision, and whether it had a major, moderate or minor potential to adversely affect consumers, persons licensed under the Act, or other persons.

2.5.3 Regulatory Policy Development

Regulatory policy can take the form of binding instruments and non-binding instruments. As discussed in a report entitled, “A Report with Respect to Decision-Making Processes at the OEB” released by the Board in September, 2006⁷:

Development of & refinement to regulatory policy

- Codes, rules and orders in hearings dictate a binding general framework for application to specific circumstances.
- Guidelines, statements of Board policy and sometimes reasons (as distinct from orders) provided by Board panels in hearings serve to guide determinations made by Board members in specific circumstances, and to shape applications submitted to the Board. While non-binding, these forms of regulatory policy reflect the thinking of the full Board, and thus:
 - encourage consistency in the disposition of individual applications; and
 - enhance transparency and predictability for the benefit of the industry.

Generally the resultant policy sets out requirements on and/or for all companies in the subject sector. Therefore, the process used to develop the policy is designed to take into consideration the potential implications on company performance.

Development or refinement of regulatory policies generally involves consultation with stakeholders. These consultation processes rely

⁷ This report is available on the Board’s web site: [A Report with Respect to Decision-Making Processes at the OEB](#).

heavily on research carried out by staff with the assistance of experts and by stakeholders. While, for the most part, the topics of discussion in policy development consultation processes are at such a level as to apply broadly, consideration of company performance and capabilities are common to those discussions.

2.5.4 Application-Specific Proceedings

Reviews of performance are generally carried out in hearings held in response to applications to the Board from utilities for approval of:

- rates charged by the utility;
- infrastructure facilities; or
- issuance of, or amendment to licences.

In addition to the information filed by an Applicant during a hearing, staff, intervenors, and the Board may be informed by information on the public record from other sources including the Board's RRR filings and/or benchmarking studies.

*Hearings informed
by RRR filings &
benchmarking*

Intervenors and Board staff may use various means to test the reasonableness of an applicant's proposed work plans and associated costs. Generally, intervenors test the application for consistency of requests, facts, and numbers, and consistency with Board policies and guidelines, Board decisions, and constituency

interests. Among other matters, analysis will focus on reviewing year-over-year changes and comparing resultant trends in utility spending and performance. In effect, intervenors are carrying out a form of benchmarking in their review.⁸

⁸ Shepherd, Jay and Bill Harper. Review of Applications. SOAR/OEB Applications Training for Electricity Distributors. June 10, 2010.

3 Issues for Consideration

Objectives for a Renewed Regulatory Framework

As noted in the attachment to the Board's cover letter for this paper, the Board has a set of statutory objectives that are prescribed in the Act.

As previously noted in the attachment to the Board's cover letter for this paper, an overarching objective for a renewed regulatory framework for electricity is to ensure that network investment is prioritized on a basis and proceeds at a pace that has regard to the total bill impact on consumers.  In its October 27th Letter, the Board noted that it "has completed a number of initiatives to integrate the environmental objectives of the Green Energy Act with the Board's more traditional mandate regarding economic efficiency, cost effectiveness, and consumer protection. It is now time for the Board to further integrate its objectives into a renewed regulatory framework which reflects the significant role network investment will have in the years to come". 

Network investment is prioritized on a basis and proceeds at a pace that has regard to the total bill impact on consumers

To ensure that the Board's rate-making policies continue to facilitate the cost-effective and efficient implementation of Board-approved plans, and in light of the overarching objective for a renewed regulatory framework, this section of this paper discusses various considerations in relation to setting standards for performance and efficiency, providing appropriate incentives, and reviewing performance.

An Outcome-Based Approach

An outcome-based approach will focus on outcomes as well as outputs. For the purposes of discussion, “outputs” are the goods or services that companies provide to their customers and “outcomes” are the end-states experienced by either customers or the companies themselves once the outputs have been provided⁹. Working definitions for these and other the commonly used terms when talking about defining and measuring performance are presented in section 3.1.

An outcome-based approach focuses on “results”; not merely “activities” carried out to achieve the results. Consequently, an outcome-based approach can in the short-term show a regulated company’s effect on its customers and in the long-term its impact on the market.

An outcome-based approach



The Board would assess a regulated entity’s performance based on that company’s achievement of outcomes as well as its production of “outputs”. The objective, then, of an outcome-based approach is to link utility efficiency in its production of outputs to the intended results, reflecting the utility’s effectiveness.

As noted in the Concept Paper, “[a]n outcome-based regulatory approach is therefore compatible with the desire to be more proactive and responsive to consumers’ preferences, as in competitive markets.”¹⁰

⁹ Concept Paper, p. 15.

¹⁰ Ibid., p. 16.

Criteria for Policy Framework on Defining and Measuring Performance

Regulation that promotes economic efficiency in the energy sector ultimately serves the best interests of ratepayers, investors and the province as a whole. Incentive regulation, benchmarking and service quality standards are all tools that contribute to the advancement of that aim.

Building incrementally upon the foundations in place described in Chapter 2, staff believes that the Board's statutory responsibility is best fulfilled, and its statutory objectives in relation to electricity are best promoted, using an outcome-based approach with multi-year rate-setting that is designed on the basis of the guiding concepts already presented in the attachment to the Board's cover letter for this paper.

Consistent with this view of an incremental approach, reflected in this paper is staff's belief that the Board's approach to defining and measuring performance should be sustainable, predictable and effective. Also, it should be practical to the extent possible without sacrificing the other criteria.

Four criteria

A **sustainable** framework is flexible and reasonably able to handle changing and varied circumstances, while ensuring that the principles underlying the method by which performance is defined and measured are consistent between transmitters/distributors.

A **predictable** framework facilitates planning and decision-making by transmitter/distributors and their customers.

An **effective** framework encourages transmitters/distributors to implement efficiencies and allocates the benefits from greater efficiency between the transmitter/distributor/shareholder and ratepayers in an appropriate manner. An effective framework also provides for prudent capital investment as required to ensure necessary infrastructure development and to maintain an appropriate level of reliability and quality of service.

Without sacrificing the other criteria, under a **practical** framework, a transmitter's/distributor's costs of administration should not exceed the benefits.

3.1 Working Definitions to Assist Consultations

Defining Performance

*What is utility performance and will we know it when we see it?*¹¹

To effectively explore this question, staff thinks it is important to first ask: what is meant by some of the commonly used terms when talking about defining and measuring performance? In particular, what is meant by terms such as “outputs” and “outcomes”, “standards” and “performance”, and “productivity” and “efficiency”? Terms like these are central to a discussion on performance, are not specifically defined in legislation or regulation. Given the often varied usage of some of these terms, as a springboard for discussion, below is a set of working definitions.

*Working
definitions*

¹¹ This question is paraphrased from an essay on regulatory quality published by the National Regulatory Research Institute (“NRRI”), entitled “[Utility Performance: Will We Know It When We See It?](#)”.

Table 3: Working Definitions to Assist Consultations

Term	Working Definition
Efficiency	means getting the most out of the resources used. ¹² Also, in general “efficiency” describes the extent to which time or effort is well used for an intended task or purpose. The term is also often used to relay the capability of a specific effort to produce a specific outcome effectively with a minimum amount of waste, expense, or unnecessary effort. “Efficiency” has widely varying meanings in different disciplines.
Economic Efficiency	the extent to which a given set of resources is being allocated across uses or activities in a manner that maximizes whatever value they are intended to produce, such as output, market value, or utility. Contrasts with engineering efficiency, which focuses within a single activity on the output it produces per unit input. ¹³ Economists typically distinguish between two types of efficiency: productive efficiency and allocative efficiency. ¹⁴
Allocative Efficiency	a theoretical measure of the benefit or utility derived from a proposed or actual selection in the allocation or allotment of resources. ¹⁵
Productive Efficiency	refers to the degree to which a firm produces the maximum potential output given available technologies. ¹⁶
Effectiveness	in general “effectiveness” refers to the capability of producing an outcome, and is frequently used in relation to the degree to which something is capable of producing a specific, desired outcome.
Outcomes	the end-states experienced by either customers or companies themselves after outputs have been provided. For example, “customer satisfaction” (measured by service quality indicators) experienced by a customer as a result of “delivered electricity” would be an example of an outcome. ¹⁷
Outputs	the goods or services that firms provide to their customers. For example, “delivered electricity” (measured in kWh) would be an example of an output. ¹⁸

¹² The Economist, *Economics A–Z*.

¹³ Deardorffs' Glossary of International Economics.

¹⁴ Concept Paper, p. 14.

¹⁵ Markovits, Richard. *Truth or Economics: On the definition, prediction, and relevance of economic efficiency*. New Haven: Yale University Press. 2008. This definition incorporates both the “supply-side” and “demand-side” aspects of allocative efficiency discussed in the Concept Paper, pp. 24-25.

¹⁶ Concept Paper, p. 24.

¹⁷ *Ibid.*, p. 15.

¹⁸ *Ibid.*

Term	Working Definition
Performance	refers to how efficiently and effectively a company is achieving the desired goals/outcomes/objectives. ¹⁹
Productivity	measures the transformation of inputs into outputs. ²⁰
Standard	a quantitative benchmark that is used to evaluate how effectively regulatory objectives are being achieved. ²¹

Staff does not intend to reach a final conclusion as to the precise definition of these terms, but rather to land on broadly acceptable “working” definitions for use in this consultation.

3.2 Setting & Measuring Standards for Performance

With regard to setting standards for performance, this section of the paper considers the overall issue of:

Overall Issue

- What should the Board consider when setting new or refining existing standards for service and/or cost performance for distributors and transmitters?

Measuring standards for performance is also considered.

To examine this question, it may be helpful to briefly review common dimensions of utility performance. A paper published in August, 2010 by NRRI is useful for this purpose. Below, is a table reproduced from “Where Does Your Utility Stand? A Regulator’s Guide to Defining and Measuring Performance” (the “NRRI Paper”) that summarizes a view on different dimensions of performance.

Dimensions of utility performance

¹⁹ Ibid., p. 22.

²⁰ Ibid.

²¹ Ibid.

Table 4: NRRI Summary of Information on Performance Dimensions²²

Performance Dimension	Definition	Measures	Data Sources
Reliability	Reliability is a system's ability to consistently perform as intended without degradation or failure.	<ul style="list-style-type: none"> • Outage indices • Power quality indices 	<ul style="list-style-type: none"> • Utilities • NERC
Safety	Safety is a state of being certain that the utility's operations will not harm the public, employees, or the environment.	<ul style="list-style-type: none"> • Public safety measures • Employee safety measures 	<ul style="list-style-type: none"> • Utilities • OSHA
Customer Satisfaction	Customer satisfaction indicates how content customers are with their utilities' services.	<ul style="list-style-type: none"> • Customer complaints • Call center performance • Appointments • Metering and billing accuracy • Emergency response • Results of customer surveys 	<ul style="list-style-type: none"> • Utilities • J.D. Power and Associates' surveys
Financial Health	The state of the utility's financial health indicates whether a utility's financial position is adequate for it to fulfill its public service obligation.	<ul style="list-style-type: none"> • Liquidity • Equity • Leverage • Variable-rate debt • Return and valuation • Credit ratings 	<ul style="list-style-type: none"> • SEC Form 10-K • FERC Form 1 • RUS Form 12 • RUS Form 7
Costs	Costs are the value of resources (including labor, capital, and materials) that go into the production of the utility's services.	<ul style="list-style-type: none"> • Utility total costs • Different categories of costs 	<ul style="list-style-type: none"> • FERC Form 1 • EIA Form 923 • RUS Form 12 • RUS Form 7

²² Shumilkina, Evgenia. National Regulatory Research Institute. "[Where Does Your Utility Stand? A Regulator's Guide to Defining and Measuring Performance](#)". August, 2010. p. 4.

Performance Dimension	Definition	Measures	Data Sources
Plant Performance	Plant performance indicates how efficiently a utility operates its plants.	<ul style="list-style-type: none"> • Equivalent forced outage rate on demand • Equivalent forced outage rate on peak • Heat rate • Outage rates • Availability factor • Capacity factor • Economic efficiency 	<ul style="list-style-type: none"> • NERC • EIA Form 860 • EIA Form 923
Innovation	Introduction of new processes or technologies that make a utility operate more efficiently.	<ul style="list-style-type: none"> • R&D spending • R&D effectiveness index • Number of patent applications 	<ul style="list-style-type: none"> • FERC Form 1
Asset Management	The evaluation of a utility's asset management practices indicates how efficiently a utility manages its assets.	<ul style="list-style-type: none"> • Evaluation of the whole asset management process • Evaluation of specific aspects of asset management 	<ul style="list-style-type: none"> • Utilities

These dimensions are common considerations in application proceedings. Staff suggests that Table 4 provides a reasonable list of common dimensions of utility performance.

3.2.1 Current Standards for Performance in Ontario

As stated previously, for the purposes of this paper, the minimum requirements set out in the Board's codes, identified in Figure 1 and Figure 2 on page 6, for licensed electricity transmitters and distributors in relation to various regulated and unregulated activities are considered minimum standards in the context of

Core performance standards

defining and measuring performance. As such, these minimum requirements establish core performance standards for transmission and distribution businesses. Among other matters, these core performance standards address quality of service to customers, transmitter or distributor efficacy in delivery of service to customers, and cycle-times²³ experienced by customers in certain processes.

The Board's current foundation for electricity distribution service quality regulation, described in section 2.2 is comprised of customer-centric "quality" standards for performance common in regulation of network service providers 

*Reliability &
Customer
Satisfaction*

The Board's codes generally set out minimum conditions that a transmitter or distributor must meet in carrying out its obligations under its licence. Unless otherwise stated in the licence or a code, these conditions apply to all transactions and interactions between a transmitter or distributor and its customers. Most of those conditions are specific to the manner in which services are "delivered" to customers. Some conditions prescribe "cycle-times" for processes in whole or in part. The tables of contents for the distribution system code and the transmission system code are reproduced in Appendix C for information purposes.

*Delivery and cycle-
times*

In addition to the core performance standards set out in the Board's codes, a standard for productivity is a feature in the Board's current incentive regulation plan for electricity distributors, described in section 2.3.2: the X-factor. Generally, the X-factor has two main components: the productivity factor and the stretch factor.

Productivity

²³ Cycle-time can refer to the amount of time between the start and completion of a process or between events in the process.

The productivity component of the X-factor is intended to be the external benchmark which all firms are expected to achieve. It is derived from objective, data-based analysis that is transparent and replicable. Productivity factors are typically measured using estimates of the long-run trend in TFP growth for the regulated industry.

The stretch factor component of the X-factor is intended to reflect the incremental productivity gains that firms are expected to achieve under incentive regulation and is a common feature of incentive regulation plans. These expected productivity gains can vary by company and depend on the efficiency of a given company at the outset of the incentive regulation plan. Stretch factors are generally lower for firms that are relatively more efficient.

At the February 2nd stakeholder meeting staff noted that this consultation should also be about cost containment and that therefore performance metrics should consider how effectively companies manage their costs. Staff suggests that productivity and cost efficiency benchmarks may serve this purpose.

*Consultation
should also be
about cost
containment*

3.2.2 Potential Considerations When Adopting Standards

Staff believes that a key challenge in developing standards is to strike a reasonable balance between establishing sufficient uniformity and direction and to minimize unnecessary effort while allowing sufficient flexibility such that an individual transmitter or distributor will be able to make business decisions and accommodate conditions unique to its service area.

Chapter 4 of the Concept Paper sets out a number of principles that should be kept in mind when regulators consider adopting standards (and/or setting deadbands²⁴) in utility regulation, including:

Concept Paper

- To the extent possible, standards should endeavor to replicate the outcomes of markets;
- Standards should be related to aspects of service that customers value and encourage efficient long-run cost performance;
- Standards should be as stable as possible over time so that companies have a reasonable amount of time for the results of their actions to come to fruition;
- If a benchmark level is set for a standard, it should be set to ensure that companies have “room to outperform” the standard. Also, the benchmark should be calculated on the same basis as the measure of the standard (i.e., indicator); and
- Standards should reflect external business conditions (i.e., factors beyond management control) in a utility’s service territory.

In a paper prepared for CAMPUT (the “CAMPUT Paper”), the authors summarize selection criteria they used to identify performance metrics they believe would be most useful and

CAMPUT Paper

²⁴ A deadband is a range around a performance standard within which performance fluctuations are acceptable.

practical for use in benchmarking utility performance by regulators.

Among other matters, the authors note that²⁵:



- Metrics should be measurable by each utility, and should help them in running their business (i.e. they should be tracked and used internally, as well as for regulatory reporting); and
- Results should be understandable to everyone, (in other words, not a “black box” model creating an index that is unexplainable to the average observer).

In the RIIO Handbook, Ofgem sets out the principles it will consider when setting primary outputs²⁶. To the extent possible, primary outputs are to be material, controllable, measurable, comparable, applicable, compatible with the promotion of competition, and legally compliant.

*Ofgem's RIIO
Model*

The NRRI Paper also identifies a number of factors that regulators can take into consideration when selecting measures of utility performance²⁷. Among other considerations:

NRRI Paper

- The resultant suite of measures evaluates performance from as many angles as possible (given the resources available) in order to obtain a complete picture,²⁸

²⁵ First Quartile Consulting, LLC and Elenchus Research Associates, Inc. Benchmarking for Regulatory Purposes. April, 2010., p. 42.

²⁶ In RIIO, Ofgem's use of the term “output” is similar to our use of the term “outcomes”.

²⁷ NRRI Paper, pp. 18-20.

²⁸ The authors caution that covering only a few selected dimensions can lead to “you get what you measure” results. For example, if a regulator concentrates only on utility price levels or costs, then a utility will try to cut its costs, perhaps at the expense of current or future reliability or innovation efforts.

- The relationships between the measures are known and understood; and
- Before deciding what performance parameters to evaluate, a regulator should think about how she will use the evaluation results to make regulatory practices more efficient and effective.

Data issues have been a persistent impediment to benchmarking in Ontario. The NRRP Paper also cites data availability, data credibility and comparability across utilities and over time as factors to consider.

Participants at the February 2nd stakeholder meeting echoed some of these considerations. In particular, there was discussion at the meeting on the importance of focusing standards on things that customers will value and that, to ensure this, customer importance surveys, similar to that carried out by the Board in relation to distribution system reliability and, where appropriate, willingness-to-pay surveys should be conducted as part of the work to establish a standard. In combination with such surveys, consideration of the interests of future customers should also be taken into account.

*Customer
importance and/or
willingness-to-pay
surveys*

Staff suggests that, in conjunction with all of these considerations, the following could also be taken into account when deciding whether to set a new standard for performance.

- How much experience does the sector have delivering the desired outcome that is associated with the standard? In an outcome-based approach, where an outcome may not be apparent for several years, or time is necessary for all participants in the sector to gain experience to achieve

proficiency at what is being measured, appropriate indicators may need to be monitored over time to evaluate whether the intended outcome has been achieved.

- How will the proposed standard fit with existing performance standards? Is it clear what the expected consequences of not establishing the standard are? Does the proposed standard assign accountability appropriately (i.e., does the assignee have the requisite authority to make decisions to achieve the desired results)? Asking questions like this will help to identify any unintended consequences that might occur as a result of the new standard. Also, a life-cycle view such as that illustrated in the attachment to the Board's cover letter for this paper would in Board staff's view help to maintain awareness of a "big picture" (i.e., a holistic perspective) of how individual elements relate to each other and help to identify potential inter-dependencies, co-dependencies and/or inconsistencies. Planning, implementation, and review cycles and/or processes are common in business and generally constitute a life-cycle approach to management and analysis. For example, such an approach can help to identify operational goals (e.g., achievement of milestones for a project) for monitoring the extent to which desired outcomes are being promoted/achieved at various stages along the life-cycle of needed investment projects and/or plans.
- Do expected benefits outweigh the anticipated costs of establishing the standard? New efficiency standards and reporting requirements cost money and in light of concerns over bill increases and the sharper focus on the total cost to consumers, cost-benefit considerations continue to be appropriate.

*Costs associated
with new
requirements*

Together, these considerations could in staff's view guide the adoption of new standards for performance and cost efficiency.

1. What should the Board consider when setting new or refining existing standards and measuring standards for service and/or cost performance for distributors and transmitters?

Issue for comment

3.3 Providing Appropriate Incentives

With regard to provision of appropriate incentives, this section of the paper considers the overall issue of:

Overall Issue

- What should the Board consider when developing appropriate incentives to transmitters and distributors for cost-effective and efficient performance, including appropriate rewards for exceeding the standards?

For the purposes of discussion, this section of the paper adopts the definition for "incentives" provided in the Concept Paper. That is, incentives are "ex ante regulatory rules that: 1) encourage behavior by utilities that promotes desired regulatory outcomes; and 2) if executed successfully, will lead to financial benefits for utilities."²⁹

As noted in the Concept paper, "[i]t should also be noted that regulatory incentives provide only an opportunity for financial rewards, not a guarantee. The existence and magnitude of such rewards depends on the utility's performance, or how successfully its behavior promotes the desired regulatory outcome(s)."³⁰

²⁹ Concept Paper, p. 29.

³⁰ Ibid.

3.3.1 Current Incentives in Ontario

The Board currently uses financial incentives in incentive regulation plan ratemaking, reputational incentives through public reporting of utility results, and financial penalties.

A financial incentive is built into the current incentive regulation plan formula for **electricity distributors**: when distributors “beat the X-factor bar” they are allowed to retain any achieved savings. As already discussed, the productivity factor portion of the X-factor is an estimate of sector TFP trend and stretch factors are also a feature of the X-factor. The assignment of the stretch factor relies on two sets of benchmarking results to identify the three separate cohorts in the sector that differ in terms of OM&A cost efficiency.

*Financial
incentives*

Under indexed incentive regulation plans prices and/or revenues are notionally linked to performance through an X-factor.

*Rate-setting
notionally linked to
performance*

Financial incentives similarly exist in the two **gas distribution** incentive regulation plans including negotiated earnings sharing mechanisms (“ESMs”). In Enbridge’s plan, the ESM is triggered when weather normalized actual earnings is one percent above approved earnings (based on the Board’s Cost of Capital policy guidelines). The excess earnings are shared between ratepayers and the utility’s shareholder on a fifty-fifty basis. Union’s ESM, on the other hand, is triggered when actual earnings are two percent above approved earnings. Excess earnings over three percent are shared on a ninety-ten basis and excess earnings below three percent (and above the two percent) are shared on a fifty-fifty basis.

ESMs are briefly discussed in section 5.3 of the Concept Paper. In its July 14, 2008 Report of the Board on 3rd Generation Incentive Regulation for Ontario's Electricity Distributors (EB-2007-0673), the Board determined not to implement an ESM citing the short plan term, the availability of an off-ramp, and the ex-ante consumer benefit in the form of productivity and stretch factors for 3rd generation incentive regulation as its reasons. In that report, the Board also noted its concerns over the implementation of an ESM in that plan: "The regulatory burden that this would place on distributors, intervenors, and the Board is significant. Once the framework for the over earnings calculations is established, the filings by the distributors would have to be tested for accuracy and prudence."³¹

There are six licensed **electricity transmitters** in the province, the largest of which is Hydro One Networks³². To date, with the exception of the incentive mechanisms set out in the Board's "Report of the Board on the Regulatory Treatment of Infrastructure Investment in connection with the Rate-regulated Activities of Distributors and Transmitters in Ontario", the Board has not implemented specific financial incentives in the transmission sector.

The Board has implemented a specific financial incentive that **electricity distributors and gas distributors** may apply for in relation to their achievement of conservation and demand

*Specific financial
incentive*

³¹ Ontario Energy Board EB-2007-0673 Report of the Board on 3rd Generation Incentive Regulation for Ontario's Electricity Distributors dated July 14, 2008, p. 42.

³² Hydro One's transmission system is one of the largest in North America based on net book value and includes facilities that service connected customers and other transmitters province wide. These facilities comprise about 97% of the licensed transmission facilities in Ontario and are used to serve customers province wide.

management results. The incentive payment is made on the basis of the company's achieved verified results in meeting specific targets. For gas distributors, the targets are negotiated in settlement conferences with interested stakeholders and approved by the Board. For electricity distributors, CDM targets are a condition of licence prescribed by government regulation. This is the only "core performance standard" which is explicitly linked to ratemaking through a specific financial incentive. Generally, potential financial penalties are associated with core performance standards.

Reputational incentives usually involve the measurement of company performance on delivery of services which is then published and made available in the public domain. As noted in section 2.4.1, since 2005, the Board has published annual Yearbooks of Electricity Distributors and Yearbooks of Natural Gas Distributors. Under its RIIO Model, Ofgem proposes introduction of a similar reputational incentive with the start of publication of information on delivery performance on an annual basis. Ofgem defines reputational incentives as non-financial incentives that leverage off the value companies place on establishing or maintaining a good track record for delivery with their stakeholders.

Reputational incentives

Potential financial penalties are associated with core performance standards. As noted in section 2.5.2, where the Board is satisfied that a person has contravened an enforceable provision in a Board code, the Board may make an order requiring a person to pay an administrative penalty. Appropriate compliance processes are in place and followed prior to a penalty being levied on a company. The table of penalties set out in regulation and replicated on page 21 of this paper identifies the range of amounts deemed by

Financial penalties

legislators in Ontario necessary to dissuade non-compliance with desired regulatory outcomes. Financial penalties are last resort measures for non-compliance that the Board has used. When the Board makes an Order for Compliance including an administrative penalty, the Board may order that the costs be borne by the licensee's shareholder and not ratepayers.

3.3.2 Potential Considerations When Adopting Incentives

The Board has limited experience with setting specific financial incentives outside of the overall regulatory framework. As noted previously, the only discrete performance standard that has a specific incentive attached to it is CDM in electricity distribution.

If to achieve one or more of its statutory objectives, the Board  deems it necessary to provide appropriate incentives to transmitters and/or distributors, the potential impact on achievement of all of the Board's statutory objectives should be taken into consideration. For example, to determine whether adopting a specific financial incentive "to promote the use and generation of electricity from renewable energy sources in a manner consistent with the policies of the Government of Ontario"³³ that may increase regulated distribution or transmission rates in Ontario the Board will need to consider whether the benefits of doing so are in "the interests of consumers with respect to prices and the adequacy, reliability and quality of electricity service."³⁴ The Board commented on an apparent conflict between objectives in a different context. In its EB-2005-0551 Natural Gas Electricity Interface Review Decision

*Public Interest
Trade-offs*

³³ The Act; section 1(1)5.

³⁴ The Act; section 1(1)1.

with Reasons, dated November 7, 2006, the Board noted that there “may well be conflicting objectives. Put differently, there are public interest trade-offs.”³⁵

In a paper prepared for the Board by Scott Hempling, Esq., Executive Director of NRRI, Mr. Hempling notes in relation to incentives that, “Over time, these incentives—each individually rational—can become layered, overlapping and sometimes conflicting. Sometimes they take effect without careful assessment of their effects on other, non-incentive activities. It is worth revisiting each one periodically, assessing whether, individually and in combination, they still represent the best fit for the Board's current objectives.”³⁶

NRRI on Incentives

Among other matters, the author's discussion suggests the following matters for consideration when deciding whether to establish an incentive:

- what specific goal(s)/outcome(s) warrant incentives;
- is desired action mandatory or voluntary; and
- what conflicts may exist among resultant incentives?

Once a determination is made that an incentive may be warranted, the following considerations then come into play: what type of incentive might be appropriate; and of those, which may be most

³⁵ Ontario Energy Board EB-2005-0551 Decision with Reasons on the Natural Gas Electricity Interface Review, dated November 7, 2006, p. 44.

³⁶ Scott Hempling, Esq., Executive Director, National Regulatory Research Institute, Report to the Ontario Energy Board on an Assessment of Key Future Long-Term Regulatory Challenges Facing Economic Energy Regulators and the Ontario Energy Board, p. 17.

effective and feasible? The range of matters the author suggests be considered when setting and rationalizing utility incentives are summarized in Table 5³⁷.

Table 5: Some of NRRI’s Considerations in Rationalizing Incentives

Potential Goals that Warrant Incentives	Categories of Devices Available	Assessing incentives	
		Effectiveness criteria	Feasibility criteria
<ul style="list-style-type: none"> • Adequate physical infrastructure • Cost effective customer behaviour • Cost effective management practices • Maintain excellent service quality • Spur technological innovation 	<ul style="list-style-type: none"> • Traditional rate base regulation, unmodified • Adjustment clauses and adders for targeted expenses • Cash flow assistance for targeted capital expenditures • Guarantees of later cost recovery • Rewards and penalties based on indices or triggers • Profit adders for particular actions • Adjustments that address deviations from utility profit maximization arising from regulatory objectives 	<ul style="list-style-type: none"> • Is it the least cost means of achieving the desired outcome? • Is each incentive connected to a well-defined obligation, or does the action instead give the utility extra compensation for activities that are part of the normal utility service obligation compensated with normal return on equity? • Does it reduce uncertainty and risk? • Is it susceptible to gaming? • Can we measure its effectiveness after the fact? • Does it cause conflict with other goals? • Is it possible to measure the effect of the regulatory measure? 	<ul style="list-style-type: none"> • Does the Commission have access to the expertise and information necessary to implement the action? • Is it administratively costly? • Can regulators modify the action, or is the action irreversible?

³⁷ Ibid., pp. 17-21.

The Concept Paper echoes many of these considerations. Chapter 5 of the Concept Paper briefly describes and assesses a variety of mechanisms that can be used to create incentives for energy networks to achieve regulatory objectives.

Concept Paper

Multiple and varied incentives have been a feature in Ofgem’s price control regimes for 20 years and continue to be a feature in its RIIO Model. In its RIIO Handbook, Ofgem set out a range of matters that it will consider when setting utility incentives. These matters are summarized in Table 6.

Considerations in setting incentives under RIIO Model

Table 6: Some of Ofgem’s Considerations for Incentives under RIIO Model

Guiding Principles	Design Considerations	Considerations Specific to Financial Incentives
<p>The type and strength of incentives set by Ofgem will depend on:</p> <ul style="list-style-type: none"> • the nature of the standard for performance and expected level of performance; • whether it is a mandatory requirement (e.g., a statutory obligation); • the availability and credibility of the data underpinning the measurement of the standard and utility performance; and • the relative importance of the standard to customers. 	<p>When designing an incentive Ofgem’s considerations will include:</p> <ul style="list-style-type: none"> • whether incentives should be symmetrical; • whether marginal incentives would be appropriate; • whether incentives should be financial and/or reputational; and • whether an automatic revenue adjustment should be part of the incentive mechanism. 	<p>When determining the form that financial incentives will take, Ofgem will consider matters such as:</p> <ul style="list-style-type: none"> • the way adjustments to revenue will be made; • the timing of any adjustments; and • the magnitude of potential changes to revenue. <p>Also, when considering the strength of financial incentives, Ofgem will consider matters such as:</p> <ul style="list-style-type: none"> • estimates of the value of delivering the primary output; • preferences expressed by stakeholders during consultation; • historical performance of the energy network companies; • external policy drivers; and • high level guidance from government.

Staff notes some similarities between the guiding principles and considerations listed above and the considerations discussed in section 3.2.2. Also, staff suggests that Table 5 and Table 6 provide a useful illustration of how these considerations might be brought together in a cohesive framework for practical use. Together, they can guide the adoption and appropriate incentivising of standards for performance and cost efficiency along a “development path” which accounts for how a standard might be used and whether there are “consequences” associated with it.

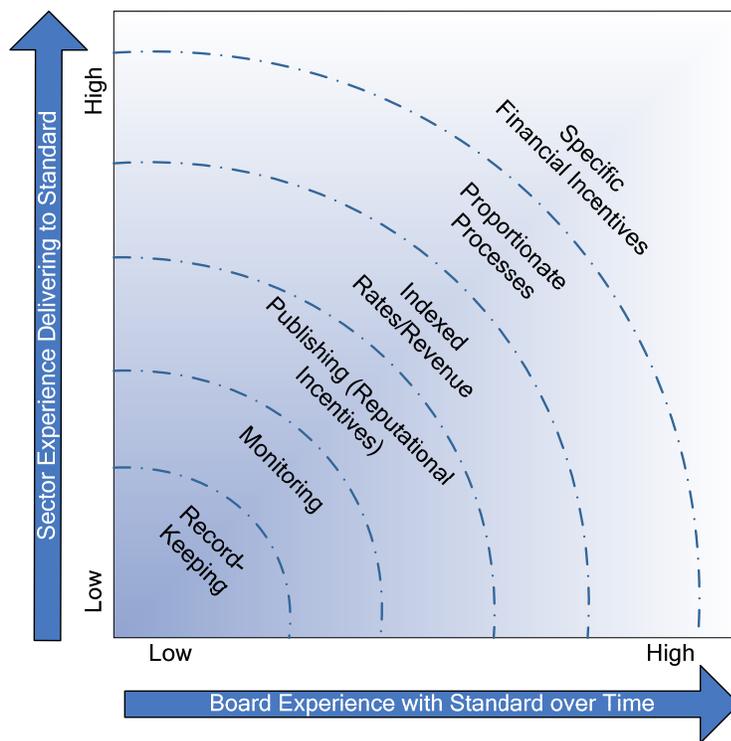


Figure 3: Illustrative “Development Path”

Staff suggests, as illustrated in Figure 3 that when and how to incentivise may evolve, to a large extent, with how long a performance standard has been in place and on how much experience the sector has delivering to the standard.

2. What should the Board consider when developing appropriate incentives to transmitters and distributors for cost-effective and efficient performance, including appropriate rewards for exceeding the standards?

Issue for comment

3.4 Reviewing Performance

With regard to reviewing performance, this section of the paper considers the overall issue of:

Overall Issue

- What should the Board consider in relation to when and how it assesses utility performance?

3.4.1 Current Practice in Ontario

The current timing and context for potential reviews by the Board of electricity transmitter or distributor performance is detailed in section 2.5. In brief, the contexts for reviews include audit, compliance and potentially enforcement, policy development, and in response to applications from transmitters and distributors.

Timing and context for reviews

In multi-year incentive plans, performance is reviewed on an on-going basis and could include one or more of the types of reviews listed above. For discussion purposes, staff suggests that there are generally three phases to the multi-year incentive plan process: review at the time of setting base rates going into an incentive plan; review throughout the plan term; and review at the end of the plan which informs design of the next plan and the rate rebasing review to set base rates going into the next incentive plan.

Section 2.4 provides a brief overview of the regulatory information and benchmarking work that supports the Board’s oversight of electricity transmitters and distributors.

Empirical tools

3.4.2 Potential Considerations for Performance Reviews

In the essay entitled “Utility Performance: Will We Know It When We See It?”, NRRI challenges whether regulators pay more attention to dollar flows than to performance standards. In addition to identifying obstacles that commissions face with respect reviewing utility performance, NRRI identifies options for commissions to consider so as to avoid the risk that performance review occurs only after a major outage or cost overrun, including the following quoted from that essay:

Timing and context for reviews

- “Condition approvals on performance: Rate increases may be required by statute, but so is performance. To grant rate increases when asked but assess performance only when things go wrong is asymmetrical. Every utility request—a certificate to build, a rate increase, a merger or divestiture—should be premised on a promise of improvement. Every commission approval, then, should be conditioned on evidence of achievement.
- Frame regulatory proceedings as performance inquiries; frame regulatory opinions as performance assessments: A commission is not a supermarket where parties shop for benefits. A commission is a regulatory agency, obligated to establish and enforce performance standards. It is true that statutes entitle parties to make requests and require commissions to respond. But the commission’s response need

Condition approvals on performance

Frame regulatory proceedings as performance inquiries; frame regulatory opinions as performance assessments

not be confined by the party's request. That is the central difference between courts and commissions. Courts are confined to the parties' presentations; commissions are obliged to advance a larger public interest. (See the NRRRI essay "Commissions are not Courts; Regulators are not Judges."³⁸) It takes extra work, but on receiving a request for rate increase, a commission can require not only evidence of cost of operations, debt, and equity but also evidence of improvement in performance factors."

Staff would add that consideration could be given as to whether the performance assessment (and therefore measurement) will be relative to explicit peers and/or to established performance standards.

Under a peer-based performance measurement approach, incentives may be made available to utilities based on their performance as compared to other utilities. This approach has been implemented by the Board in its approach to annual stretch factor assignment based on efficiency rankings for electricity distributors under incentive regulation. A distributor's individual ranking can be directly affected by its own efforts and can also be affected by the efficiencies achieved by other distributors. This means, for example, that a distributor initially ranked as a superior performer must continue to outperform its peers to maintain that ranking and associated stretch factor.

*Relative
performance in
comparison to
others*

Under a pre-established performance standard, utility performance assessments would be based on a company's own performance

*Absolute
performance
against a standard*

³⁸ This essay is available on the NRRRI website: "[Commissions are not Courts; Regulators are not Judges](#)"

against a pre-existing standard. While the standards might be based on empirical analysis of the cost performance of all utilities, financial incentives and revenue requirement outcomes for individual utilities would be determined only by reference to their own absolute performance against the standard. This approach has been implemented by the Board in relation to the specific incentive for electricity distributors in relation to achievement of their CDM targets. The eligibility for the incentive payment is assessed based solely on the distributor's own performance.

3. What should the Board consider in relation to when and how it might assess utility performance? *Issue for comment*

intentionally blank

4 Potential Refinements to Foundations in Place

Considering the context for this work and the guiding concepts to help frame the development of a renewed regulatory framework for electricity outlined in the attachment to the Board's cover letter for this paper, the regulatory foundations already in place with respect to defining and measuring performance of electricity distributors and transmitters summarized in Chapter 2, and working definitions and discussion of issues for consideration in Chapter 3, staff invites comments from stakeholders on potential refinements to foundations in place for the Board to consider:

- Should the Board set additional, or refine any existing, standards for service and/or cost performance for distributors and transmitters?
- How might the Board provide appropriate incentives to transmitters and distributors for cost-effective and efficient performance?
- How might the Board embed performance reviews into the regulatory cycle (i.e., when and how will the Board assess performance)?

While this chapter describes some ideas and options and prompts stakeholder comment, it is not intended to limit stakeholder proposals and comments.

4.1 Ideas & Options for Potential Refinements

4.1.1 Standards for Performance

Recent amendments to the Act establish important responsibilities for the Board and other entities in achieving the objectives of conservation, promotion of renewable generation, and technological innovation through the smart grid.

In light of this and to the extent the energy value chain may be effected, certain elements of the electricity transmitter and distributor business models will likely change to meet the new legislated obligations. As a consequence, what a “standard transmitter” or a “standard distributor” is within the scope of defining and measuring performance (i.e., what functions carried out by the companies should be measured) may need to be reviewed. Such a review would identify any new or changed functions carried out by the companies that should perhaps be included in performance review analyses / benchmarking models. This issue has been raised in prior consultations on electricity distribution benchmarking.

Consideration of potential changes to the transmission and/or distribution business

As noted in Appendix B, network companies will be expected under Ofgem’s RIIO Model to deliver a range of outputs which will fall into one of six categories: customer satisfaction; safety; reliability and availability; conditions for connection; environmental impact; and social obligations. These categories reflect the broad role that the companies will play in delivering the objectives of the RIIO Model.

Role of Networks Reflected in RIIO Model

4. In light of the objectives for a renewed regulatory framework for electricity, do the Board's existing "standards", described in section 4.2.1, continue to effectively capture a holistic view of utility performance (e.g., financial, operating, etc)? If not, what standard(s) for service and/or cost performance might be appropriate, how/when would the standard(s) be determined, and what are the implications, advantages and disadvantages of such standard(s)?

Issue for comment

4.1.1.1 Network Asset Management

As noted previously, the impetus for development of a renewed regulatory framework for electricity is a sharper focus on total costs to consumers due to the need for significant investment in the sector and consequent concern over consumer bill increases. In addition to a review of its rate mitigation policies, the Board is re-examining its approach to network investment planning by transmitters and distributors. As indicated in the October 27th Letter, "[t]his work will include an examination of ways to encourage distributors and transmitters to plan their investments with the total bill impact in mind. Efforts to manage the prioritization and pace of network investments may require an assessment of the combined cost impact of both the proposed network investment and the generation that would be connected by that investment; that assessment should help to ensure that the most cost effective network investments are made first. The Board will also assess whether planning by distributors and transmitters might yield more efficient and effective outcomes if conducted on a more coordinated and regional basis." The re-examination of the Board's approach to

Board is re-examining its approach to network investment planning by transmitters and distributors

network investment planning highlights the importance of the transmission and distribution planning processes.

Until experience is gained under any new requirements with respect to network investment planning, appropriate indicators will need to be monitored over time to evaluate whether the intended outcomes are being achieved. In the CAMPUT Paper, the authors outline performance metrics they believe would be most useful and practical for use in benchmarking utility performance by regulators. With respect to asset management, the authors propose asset replacement rate as a potential indicator to provide additional insight to the strategy of a utility in this area.

*Asset replacement
Rate*

In the NRRI Paper, the author notes that during such periods, while waiting for observable results, evaluating utility processes and practices can influence future outcomes. The author writes that “[i]n the case of a multi-billion-dollar power plant, waiting for the outcome limits the actions the regulator can take. Evaluating processes and practices is an additional way to cause utility improvement in outcomes. Information on processes can also find other applications in regulatory practices. For example, information on how a utility manages its assets can serve as evidence of utility’s management competence (or incompetence) in the process of approval of new capital investments.”³⁹ International asset management accreditations play a role in some jurisdictions in this regard.⁴⁰ Staff notes that some utilities in Ontario have indicated that they are investigating the application and value of asset management specifications such as PAS 55 (an international asset

*Evaluate utility
process*

³⁹ NRRI Paper, p. 19

⁴⁰ KEMA Inc. [Leveraging Network Asset Management Practices for Regulatory Purposes](#). November 2009.

management specification that outlines a framework for sound decision-making).

The Planning Initiative is considering the potential qualities of network investment planning and the resultant plans (including related application information requirements) that might help to demonstrate ‘need’ for and ‘prudence’ of network investments proposed in an application to the Board.⁴¹

*Application
information
requirement
considerations in
Planning Initiative*

In its RIIO-GD1 Decision, Ofgem set out its decisions on its proposed methodology to the development of a broad approach to asset management for the gas distribution sector. Ofgem will require companies to introduce a risk-based approach to asset management, where investment is prioritized according to the risk, including environmental risks. The primary output associated with this approach will be network risk removed. An ex ante baseline level of costs and outputs for network risk associated with a capital plan, would be set by Ofgem. A specific incentive associated with “network risk removed” has not yet been announced. Ofgem is considering how best to place incentives on under and over delivery in relation to network risk and consultations with the gas networks are planned to continue. However, a symmetric approach to incentivizing will be applied to associated “secondary deliverables” in Ofgem’s broad approach to asset management.

*“Network risk
removed” in
Ofgem’s RIIO-GD1*

Ofgem is planning for a new licence condition to be included in the gas network licence for companies to gather and report information on asset health, criticality and risk associated with other assets (i.e., the “secondary deliverables”). Ofgem will apply a symmetric

⁴¹ EB-2010-0377 Staff Discussion Paper on Distribution Network Investment Planning.

approach for over and under delivery of the secondary deliverables. Network companies should be able to recover their share of the over spend (under the Information Quality Incentive, i.e., “IQI” mechanism) relating to over delivery if they can demonstrate this is positively valued by customers, and that the costs incurred were efficient. Similarly, if companies have under delivered they should be held to funding the delivery of the output gap in the following period. The incentive scheme is based on carrying forward the agreed baseline outputs/secondary deliverables to the next control period. Under this approach, any under delivery or over performance is taken into account. As part of the business planning process for the next price control review, Ofgem will require the companies to demonstrate that the extra work is justified and is in the interest of consumers.

4.1.2 Appropriate Incentives & Future Role of Benchmarking

As noted in section 2.4.2, the Board may ask companies to file their own benchmarking studies to support their applications. Where Board-sponsored cross-company comparisons are not practicable, the Board may need to rely on company-filed analyses. Also noted previously, benchmarking models currently used by the Board for assessing electricity distributor cost efficiency are focused on OM&A costs and are used solely in incentive regulation plan rate setting. Total cost benchmarking, once developed in consultation with stakeholders, could inform ratemaking in the future. Development of such a tool and gaining experience using it effectively is an important step towards an outcome-based approach to recognizing, and potentially rewarding, utility performance. However, as noted previously, data issues have

*Cost Analyses /
Benchmarking*

been a persistent impediment to benchmarking in Ontario. Staff notes that the Board's continued, and potentially expanded use of empirical analyses on utility performance could provide an incentive for timely and consistent reporting by utilities under the RRR.

While the Board works to resolve any outstanding data issues, it does not prevent the use of historical data in RRR for benchmarking to inform application reviews and/or compliance processes. While the past may not be viewed by some as a good predictor of the future for Ontario utilities given current energy policy, Board staff is of the view that the past can still be a useful reference against which to test present-day requests in applications.

In Chapter 4 of the Concept Paper, Dr. Kaufmann notes that “[b]enchmarking can assess utility performance levels relative to the norm and superior performance levels in the industry. Benchmarking can therefore set objective performance targets that are superior to the industry norm and that move utilities in the direction of better performance levels that would be expected under competition.”⁴²

Benchmarking can set objective performance targets

Dr. Kaufmann also notes in the Concept Paper that benchmarks can be based on a company's own past performance, peer performance or sector performance as determined through empirical benchmarking techniques. A company benchmark could be set as a three- to five-year moving average of its historical performance on a metric until a sufficient number of years (i.e., at least 10 years) of data are available to be able to set a benchmark that reflects utilities' longer-term experience.

Benchmarks can be based on company, peer or sector performance

⁴² Concept Paper, p. 59.

As noted in the Concept Paper, and echoed in a paper issued by NRRI⁴³, the results of statistical methods of evaluating utility performance can be used in a variety of ways, both within and outside the context of rate cases. In rate cases, statistical methods can be used to evaluate the reasonableness of the cost-of-service component of test year filings. For example, results of statistical methods can be used to assess the appropriateness of a company's expense projections and facilitate comparisons among peers. Outside of rate cases, such information can be used to inform the public about utility performance on a standalone basis or among its peers, or help to inform investigations in compliance processes.

*Results can be
used in a variety of
ways*

Generally under an incentive regulation plan, the comprehensive cost of service review at the time of setting base rates could be supplemented with regression analysis on historical expenditures and benchmarking of projected expenditures. Utility performance review throughout the plan term may include benchmarking updates on utility achievements and assessments in relation to progress against approved investment plans. If plan termination provisions or efficiency carry-over mechanisms are in place, mid-term performance reviews may include assessments of operating and/or capital expenditures relative to the targets associated with those mechanisms. The review carried out at the end of a plan, which informs design of the next plan and the rate rebasing review to set base rates going into the next incentive plan, may include all of the above.

⁴³ Shumilkina, Evgenia. Utility Performance: How Can State Commissions Evaluate It Using Indexing, Econometrics, and Data Envelopment Analysis? March 2010 (and revised April 26, 2010).

Chapter 5 of the Concept Paper identifies more specifically how the Board might introduce more benchmarking into its rate setting. In incentive regulation plans, the Board could expand the empirical measures currently used (i.e., inflation and TFP) to include unit cost indexes on one or more of performance dimensions such as those identified in Table 4 on page 31. The Board could adjust rates directly or indirectly based on the relationship between measured and benchmark performance. With respect to the provision of incentives, the Board could adapt some form of “efficiency carry-over” mechanism like that used in the U.K. to allow efficiency gains to be distributed to customers in increments without reducing the power of the incentive plan.

Staff notes that the Board’s use of TFP in electricity and gas distribution ratemaking has not extended to the transmission sector. In its draft report on the use of TFP for the determination of prices and revenues the Australian Energy Market Commission (“AEMC”) states that the conditions needed to support a TFP methodology are more likely to be met in the distribution sectors. AEMC also states in that draft report that it recognizes “that one risk with a TFP methodology is that the specification may not be able to capture all the outputs successfully or to adequately handle the lumpy nature of investment in the electricity and gas transmission sectors. As a consequence, the TFP index may not be a good measure of industry productivity for the transmission sectors.”⁴⁴

⁴⁴ Australian Energy Market Commission. Draft Report on a Review into the Use of Total Factor Productivity for the Determination of Prices and Revenues. November 12, 2010. p. 76.

In addition to incentive rate setting, the Board could introduce more benchmarking into rate rebasing cost of service reviews. As explained by Dr. Kaufmann in Chapter 5 of the Concept Paper, in such reviews, “[t]he Board can use its discretion and judgment as a means of creating incentives for networks to achieve regulatory objectives... The [Board] always applies a certain amount of judgment when assessing the prudence and reasonableness of networks’ reported costs. The Board can scrutinize networks’ costs and operations more closely if certain performance measures fail to conform with established standards. For example, Staff can apply greater scrutiny to the cost of service applications of networks in the bottom third of the benchmarking evaluations that are currently used to set stretch factors in third generation incentive regulation.”⁴⁵

The Mitigation Initiative is considering whether the Board’s mitigation policy should have a threshold. As identified in that paper, a bill impact threshold that integrates data on a utility’s underlying cost performance could be used as a screening device, could be used to inform the review and approval of applications and/or could be an ex-ante incentive mechanism⁴⁶.

*Benchmarking
consideration in
Mitigation Initiative*

5. In its review and approval of costs associated with investment plans, what methodologies and approaches might the Board use to develop an empirical approach to help it determine appropriate cost levels? Can the Board's utility cost comparison and benchmarking work be used to help size cost envelopes?

*Issues for
comment*

⁴⁵ Concept Paper, p. 81.

⁴⁶ EB-2010-0378 Staff Discussion Paper on Approaches to Mitigation for Electricity Transmitters & Distributors.

Ofgem has employed a wide range of approaches to incentivize the companies it regulates over the years. The following examples come from recent Ofgem publications.

Ofgem's decision on strategy for the next transmission price control (i.e., RIIO-T1) was issued on March 31, 2011. A summary of the outputs and associated incentives is replicated in Appendix B. In the supplementary Annex on outputs and incentives⁴⁷, among other matters, the following financial incentives are announced:



*RIIO-T1 Incentives
Announced*

- With respect to customer satisfaction, Ofgem is setting two separate financial incentives: the first is worth up to +/- 1% of allowed base revenue and will be assessed based on results of a customer satisfaction survey; the second is worth up to 0.5% of allowed base revenue and is a discretionary reward available where transmission owners are able to demonstrate that their effective stakeholder engagement has led to exceptionally positive outcomes for customers;
- A 3% of revenue collar is being introduced on financial penalties and a licence condition for minimum standard of performance established on electricity reliability. This is a common incentive rate, with a strength estimated to be in the range £4,300-£22,000/MWh adjusted by the efficiency incentive rate. In light of applying a collar on the incentive scheme, Ofgem has decided that it will enforce a minimum standard of performance through a licence condition⁴⁸; and

⁴⁷ Ofgem [Decision on strategy for the next transmission price control - RIIO-T1 Outputs and incentives](#) published on March 31, 2011.

⁴⁸ Staff notes that Ofgem considered historical data on unsupplied energy to understand the likelihood that the businesses will face a collared penalty. Ofgem states in its decision its view that the collar should be set at a level that provides protection for low probability, high impact events. Based on an incentive rate of

- The band for the potential efficiency incentive rate for individual transmission operators has been set at 40-50%. In applying the ENS⁴⁹ scheme Ofgem will adjust the value of lost load in £/MWh by the IQI marginal incentive rate.⁵⁰ For example, if the efficiency incentive rate is set at 50%, and Ofgem sets the value of lost load at an indicative level of £16,000/MWh the transmission owners would face a reward/penalty of +/- £8,000/MWh.

Ofgem's decision on strategy for the next gas distribution price control (i.e., RIIO-GD1) was also issued on March 31, 2011. A summary of the outputs and associated incentives is replicated in Appendix B. In supplementary Annexes,⁵¹ among other matters, the following financial incentives are announced:

*RIIO-GD1
Incentives
Announced*

- With respect to customer service, a broad measure will be set in relation to three (3) service elements: a customer satisfaction survey; a "customer complaints" metric; and stakeholder engagement (discussed below);
- With respect to reliability, the measure for loss of supply will be the number and duration of planned and unplanned interruptions. For unplanned interruptions, companies will face a reward/penalty based on their payments under guaranteed

£16,000/MWh adjusted by a 50% efficiency incentive rate, Ofgem estimates that a 3% collar would only have been triggered once in the last 20 years. Ofgem also examined the likely overall return on regulated equity (RoRE) impact of different levels of the collar. Ofgem considers that a collar of 3% provides a reasonable level of risk to RoRE for the businesses.

⁴⁹ For electricity transmission, the primary reliability output for all transmission owners is energy not supplied ("ENS").

⁵⁰ This rate has not yet been set. The exact efficiency incentive rate for each company will be set as part of the IQI in RIIO-T1.

⁵¹ Ofgem [Decision on strategy for the next gas distribution price control - RIIO-GD1 Outputs and incentives](#) and [Decision on strategy for the next transmission and gas distribution price controls - RIIO-T1 and GD1 Business plans, innovation and efficiency incentives](#) published on March 31, 2011.

standards.⁵² In addition, capacity output measures are set with intention to capture what network capacity the networks (initially) forecast to deliver and (then) actually deliver across the price control period. Incentive arrangements yet to be designed; and

- The band for the potential efficiency incentive rate for individual gas distribution companies has been set at 50-60%.

Staff suggests that the broad measure on customer service provides an informative example of a sophisticated incentive scheme. This example demonstrates the research and empirical work that goes into Ofgem's strategy for its price control approach. Staff is not suggesting that this scheme, or any of the others illustrated in this paper, be adopted in Ontario. As noted previously, even if the Board were to adopt any of the described schemes there would be a need to ensure that they are adapted to suit the Ontario context. The scheme is summarized in Table 7.

⁵² Gas networks must restore customers' gas supplies within 24 hours following unplanned interruptions on their network. Where a company fails to do this, it must pay domestic customers £30 and non-domestic customers £50. Companies are required to pay further compensation of £30/£50 for each subsequent period of 24 hours until the customer's supply is restored. There is a cap on liability for of a single incident of £1000 per customer. Guaranteed standards of performance for gas networks are summarized in the Ofgem document entitled "[Guidance on Guaranteed Standards of Performance and Standard Conditions, Special Licence Condition D10](#)".

Table 7: Customer Service Incentives in RIIO-GD1

Customer Service Element	Incentive Framework
<p>1. A customer satisfaction survey will be conducted throughout the year with performance rewards and penalties determined annually.</p> <p>Ofgem will appoint a market research agency to develop and pilot the questionnaire and survey methodology. Initially, the costs of conducting the survey will be shared across the industry. Later, the gas companies will collectively fund and run the survey subject to designs specified by Ofgem.</p>	<p>Target Fixed target set for duration of RIIO-GD1, based on upper quartile (drawn from survey data captured in 2011-12) performance of all companies.</p>
	<p>Penalty/Reward Up to +/- 0.5% of companies' allowed revenues relative to this performance target.</p>
	<p>Deadband No.</p>
	<p>Implementation Matters Companies that perform above target will receive a reward; those that fall below it will be penalized. A sliding scale will be applied to the level of penalty and reward so that the magnitude of the financial impact is relative to the magnitude of performance relative to the target.</p>
<p>2. Ofgem is introducing a measure for assessing how effective network companies are in managing complaints.</p> <p>Further work needed to develop this incentive. As gas networks currently only record their speed of response to (not resolution of) complaints, Ofgem proposes a trial reporting period to assess current levels of performance against these categories. Ofgem will use the trial to be conducted during 2011 to assess the appropriate weighting to be applied to each of the four categories of complaints handling. Ofgem will also use the emerging data to identify the level of performance at or below which we will impose the maximum penalty.</p>	<p>Target Fixed target set based on the upper quartile performance of network companies drawn from trial data captured in 2011-12.</p>
	<p>Penalty/Reward Up to -0.5% of annual allowed revenues.</p>
	<p>Deadband Yes - companies in the upper quartile of industry performance will not face a penalty.</p>
	<p>Implementation Matters Companies will report performance against the following categories: % of complaints unresolved after one working day of receipt; % of complaints unresolved after 31 working days of receipt; % of repeat complaints; and % of ombudsman findings against the gas network. A composite score will be calculated based on each company's performance against each element.</p> <p>A penalty will be applied on a sliding scale relative to the upper quartile performance, and the maximum penalty will only apply to companies whose performance falls below a minimum acceptable level.</p> <p>If the performance of all companies' is above this minimum, no company will face the maximum penalty.</p>

Customer Service Element	Incentive Framework
<p>3. Mechanism to reward companies that can demonstrate their stakeholder engagement activities have led to exceptionally positive outcomes for customers over the price control period.</p> <p>The size of this reward reflects the importance Ofgem places on networks being able to anticipate and respond to the needs of stakeholders throughout RIIO-GD1.</p>	<p>Target Minimum requirements to be set.</p>
	<p>Penalty/Reward A discretionary financial incentive of up to 0.5% of annual allowed revenues.</p>
	<p>Deadband</p>
	<p>Implementation Matters In assessing gas networks' performance Ofgem will focus on the outcomes achieved rather than the engagement process itself.</p> <p>Minimum requirements that companies must meet will be set and may include: the network has identified their stakeholders and has a clearly defined strategy for how they engage with them; a range of stakeholders have been engaged and have commented on the approach taken by the network to capture their views and on the changes that the network is making in response; and the network is adapting its processes and policies in response to feedback from stakeholders.</p>

One of the elements of the RIIO Model designed to encourage network companies to seek out value for money delivery solutions is a fixed and symmetric efficiency incentive rate for each company.

Efficiency incentives in RIIO Model

Company-specific incentive rates have not yet been practicable in Ontario's electricity distribution sector light of the fact that there are more than 80+ distributors that the Board rate-regulates. As noted previously, the Board has used benchmarking to set peer-group specific incentive rates for electricity distributors under the incentive regulation plan. With advancements in, and experience with, more comprehensive benchmarking techniques, a more company-specific approach may be possible in the future.

6. In addition to the CDM targets, are there any other “core performance standards” that should be encouraged through the

Issues for comment

use of specific incentives? If so, what incentive(s) might be appropriate, how/when would it be determined, and what are the implications, advantages and disadvantages of such an incentive?

4.1.3 Review of Performance

Ofgem's on-going monitoring of utility performance during the price controls is reliant on utility reporting on information provisions in place for regulatory reporting packs (RRPs) and regulatory instructions and guidance (RIGs). A link to a sample RRP and a list of links to the RIGs in place for Ofgem's fifth electricity distribution price control which runs from April 1, 2010 to March 31, 2015 are provided in Appendix B.

*Review of
performance in
Ofgem's RIIO
Model*

In its RIIO Handbook, Ofgem states that to facilitate a meaningful  comparison of network company performance, it will develop a balanced score card for output delivery in each of the network sectors. The proposed approach expands on mere reporting of utility results. The scorecard will be designed to enable comparisons to be made across companies relative to a normalised baseline. The use of a balanced scorecard is intended to facilitate reputational incentives and inform Ofgem's approach to proportionate assessment described in Appendix B.

With respect to secondary deliverables, Ofgem will collect information on and monitor the secondary deliverables on an ongoing basis. In cases where a financial penalty is attached to a secondary deliverable, appropriate compliance processes will be followed prior to a penalty being levied on a company. Ofgem's

“last resort” responses for failure to deliver are similar to those available to the Board described in section 2.5.2 on compliance and enforcement.

7. How might the standards for performance discussed in section 4.2 and the various empirical tools discussed throughout the paper further inform (a) utility planning processes, (b) utility applications to the Board, and/or (c) the Board’s review processes?

Issues for comment

4.1.3.1 Fast-tracking Applications

As noted in section 3.3.1, the Board has employed proportionate process in its incentive regulation plan for electricity distributors. Perhaps this concept could be built upon similar to the approach to “fast tracking” described in Ofgem’s RIIO Model. In Ofgem’s RIIO Model, a company may be “fast tracked” for regulatory approval based on Ofgem’s “proportionate assessment of value for money expenditure”. In describing this assessment, Ofgem has identified that it will use a range of different tools as noted in Appendix B. The range of tools identified entail increased intensity of regulatory scrutiny. From lowest to highest, these include: examination and reassessment of particular project plans; review of company evidence in plan/testing of company assumptions; total cost benchmarking; international benchmarking; use of high level comparisons; unit cost / OM&A cost benchmarking; random inspections focused on one aspect of the plan; full engineering reassessment of asset replacement strategy; asset life based analysis; option value analysis; use of market testing evidence; and the option to require companies to undertake further market testing.

Proportionate assessment in Ofgem’s RIIO Model

While not all of these tools are currently used by the Board, it should not preclude the Board from moving towards such an approach.

Ontario has some experience with proportionate process under incentive regulation. In the Board's process for Ontario electricity distribution incentive regulation plan rate applications, processing timeframes have been set commensurate with the complexity of the application. Specifically, the Board has staggered application filing deadlines based on the expected level of complexity of the application. As a consequence, those applications requiring greater length of time to review are scheduled to be filed first. This has been done to gain some regulatory efficiency through more effectively managing stakeholder, utility and Board time and resources.

The Board might also consider the approach taken in RIIO of conditioning approvals of cost of service applications on the quality and thoroughness of information provided by the applicant, as well as the company's performance on certain cost and quality measures.

Staff notes that in a recent natural gas decision, the Board comments on the quality of the applications, "Although the applied-for long-term contracts do not qualify for pre-approval, the Board notes that these are the first applications for pre-approval filed with the Board. Accordingly, the Board believes it may be helpful to the Applicants to understand whether the Board considers that the LTC [Long-term Contract] Filing Guidelines have been met." The Board

then provides specific comment on whether the applicants fulfilled the filing guidelines.⁵³

The Board might also consider making further streamlined application filing requirements (e.g., a draft rate order might constitute the “application” to the Board) available to companies based on their performance on certain cost and quality measures in combination with the magnitude of revenue requirement change being sought. A range of tools similar to those identified above would need to be developed to facilitate transparent and consistent assessment of such applications.

8. What conditions would have to be met to “fast-track” an application?

Issue for comment

4.1.4 Summary Issue for Comment

This chapter has presented some ideas and options with respect to potential refinements to foundations in place in Ontario that Board might consider. As noted already, they are not provided with the intent to limit stakeholder proposals and comments.

Chapter 6 of the Concept Paper includes a table which combines various approaches to measurement, standards setting, and incentives described in that paper into an illustrative framework that could be used to assess utility performance and link consequences to measured performance. Its sole purpose is to facilitate

⁵³ Ontario Energy Board EB-2010-0300/EB-2010-0333 Decision and Order in the matter of applications by Union Gas Limited and Enbridge Gas Distribution Inc. for orders pre-approving the cost consequences associated with long-term natural gas transportation contracts issued January 27, 2011, pp. 10-12.

consultations with stakeholders within the context for this consultation and the guiding concepts to help frame the development of a renewed regulatory framework for electricity outlined in the attachment to the Board's cover letter for this paper, the regulatory foundations already in place with respect to defining and measuring performance of electricity distributors and transmitters summarized in Chapter 2, and working definitions and discussion of issues for consideration in Chapter 3. For convenience, the summary table from page 90 of the Concept Paper is reproduced in Table 8.

Table 8: PEG’s Illustrative Framework in the Concept Paper

	Desired Regulatory Outcomes	Performance Measures	Performance Standards	Performance Assessment Techniques	Regulatory Mechanisms
"Traditional" Utility Outputs	Efficient utility operations (static productive efficiency)	Industry TFP Econometric opex benchmark Opex PFP and Unit Cost levels	Industry average TFP trend Acceptable: "Average" benchmarking performance Desired: "Superior" benchmarking performance Peer group performance	Industry TFP trend indexes Econometric benchmarking Unit cost and PFP benchmarking	Inflation minus x price controls x= Industry TFP trends and company specific stretch factor
	Efficient capital expenditures (dynamic productive efficiency)	Industry TFP Company capex projections Proposed investment plan?	Industry average TFP trend Acceptable: "Average" benchmarking performance Desired: "Superior" benchmarking performance ?	Industry TFP trend indexes Econometric capex projections IQI?	Inflation minus x price controls x= Industry TFP trends and company specific stretch factor Incremental Capital Module (ICM)
	Balanced cost control incentives (supply-side allocative efficiency)	Opex Capex Change in total cost	Ex ante projections OR Plan Termination provisions comparing actual cost to revenues under continued application of incentive mechanism	Compare measured performance to performance standard(s) -> both IR and COS	Inflation minus x price controls x= Industry TFP trends and company specific stretch factor Efficiency carry-over mechanism.
	Maintain reliability and customer service (demand-side allocative efficiency)	SAIFI SAIDI Call Center performance	Company-specific average on selected measure	Compare measured performances to historical average benchmark Econometric benchmarking of reliability? -> both IR and COS	Monitoring with potential "fast track" for superior performances. Longer-term, penalty/reward mechanism
"New" Utility Outputs	Efficient capital planning (dynamic productive efficiency)	Proposed investment plan	?	?	Monitoring with potential for "fast track" for superior performance
	Connect renewable generators (static productive efficiency)	Requests to connect generators Average time to connect	Acceptable: Industry average Desirable: Upper quartile	Compare measured performance to industry average and quartiles	Monitoring with potential for "fast track" for superior performance
	Operational Smart Grid (dynamic productive efficiency and static allocative efficiency)	Total spending/time to connect smart meters	?	?	Monitoring with potential for "fast track" for superior performance
	Promote CDM (dynamic allocative efficiency)	Energy savings Changes in load shape	Acceptable: Industry average Desirable: Upper quartile	TRC computations	DSM incentives Monitoring with potential for "fast track" for superior performance

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Appendix A: Summary of Issues for Comment

Chapter	For Comment
3 Issues for Consideration	<p>Potential Considerations When Adopting Standards</p> <p>1. What should the Board consider when setting new or refining existing standards and measuring standards for service and/or cost performance for distributors and transmitters?</p>
	<p>Potential Considerations When Adopting Incentives</p> <p>2. What should the Board consider when developing appropriate incentives to transmitters and distributors for cost-effective and efficient performance, including appropriate rewards for exceeding the standards?</p>
	<p>Potential Considerations for Performance Reviews</p> <p>3. What should the Board consider in relation to when and how it might assess utility performance?</p>
4 Potential Refinements to Foundations in Place	<p>Standards for Performance</p> <p>4. In light of the objectives for a renewed regulatory framework for electricity, do the Board's existing "standards", described in section 4.2.1, continue to effectively capture a holistic view of utility performance (e.g., financial, operating, etc)? If not, what standard(s) for service and/or cost performance might be appropriate, how/when would the standard(s) be determined, and what are the implications, advantages and disadvantages of such standard(s)?</p>
	<p>Appropriate Incentives & Future Role of Benchmarking</p> <p>5. In its review and approval of costs associated with investment plans, what methodologies and approaches might the Board use to develop an empirical approach to help it determine appropriate cost levels? Can the Board's utility cost comparison and benchmarking work be used to help size cost envelopes?</p>
	<p>6. In addition to the CDM targets, are there any other "core performance standards" that should be encouraged through the use of specific incentives? If so, what incentive(s) might be appropriate, how/when would it be determined, and what are the implications, advantages and disadvantages of such an incentive?</p>
	<p>Review of Performance</p> <p>7. How might the standards for performance discussed in section 4.2 and the various empirical tools discussed throughout the paper further inform (a) utility planning processes, (b) utility applications to the Board, and/or (c) the Board's review processes?</p>
	<p>8. What conditions would have to be met to "fast-track" an application?</p>

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Appendix B: Highlights of Ofgem's RIIO Model

Excerpts from RIIO Model Handbook

In staff's view, Ofgem's RIIO⁵⁴ Model considers many of the challenging issues that Ontario faces and illustrates one approach for addressing the issues. While staff recognizes the need to ensure that any approaches adapted from other jurisdictions are suited to the Ontario context, staff believes that this consultation process could be productively informed by Ofgem's work.

*Ofgem's
framework for
setting outputs in
RIIO Model*

The objectives set by Ofgem for its renewed model are similar to the objectives articulated by the Board for development of a renewed regulatory framework in Ontario. The specific objectives set by Ofgem for its RIIO model are to encourage energy network companies to: play a full role in the delivery of a sustainable energy sector; and deliver long-term value for money network services for existing and future consumers.

Among other matters, the RIIO Model incorporates an upfront (ex ante) price control that sets the outputs⁵⁵ that network companies are required to deliver and the revenue they are able to earn for delivering these outputs efficiently.

⁵⁴ Revenue using Incentives to deliver Innovation and Outputs

⁵⁵ In RIIO, Ofgem's use of the term "output" is similar to our use of the term "outcomes".

Framework for Setting Outputs

The focus on “outputs” is central to the RIIO Model - base revenues and incentives are linked to the delivery of the outputs. Outputs that network companies will be expected to deliver will fall into one of six categories: customer satisfaction; safety; reliability and availability; conditions for connection; environmental impact; and social obligations. These categories reflect the broad role that energy network companies will play in delivering the objectives of the RIIO model.

*Focus on
“outputs” central
to the RIIO Model*

The RIIO Model identifies primary outputs and secondary deliverables as follows:

- “Primary outputs” are deliverables in relation to customer satisfaction, reliability and availability, safe network services, connection terms, environmental impact, and government mandated social obligations that the network company is expected to deliver. Primary outputs should reflect the expectations that consumers have with respect to the delivery of network services and network companies will be responsible for determining how best to deliver against these.
- “Secondary deliverables” are operational goals (e.g., achievement of milestones for a project) that are linked to delivery of primary outputs in the future. Secondary deliverables measure how network companies discharge their responsibilities for network planning, stewardship of their assets and operational decisions over time, to ensure any risk to delivery of primary outputs is managed and that they deliver long-term value for money for existing and future consumers.

*Primary and
secondary outputs*

In the RIIO Handbook, Ofgem sets out the principles it will consider when setting primary outputs. To the extent possible, primary outputs are to be material, controllable, measurable, comparable, applicable, compatible with the promotion of competition, and legally compliant. Also at each price control review Ofgem will set a level of performance for each primary output at which network companies in a sector are expected to operate. While the case for including secondary deliverables in a company's plan could be initiated by Ofgem, network companies, and/or other stakeholders, the network companies have ultimate responsibility for proposing the secondary deliverables they will deliver during the control period.

Framework for Setting Incentives

In the RIIO Handbook, Ofgem sets out the issues it will consider when designing and implementing output incentives. Consideration of these issues will take account of the fact that the type of incentive scheme that is appropriate will depend on: the nature of the primary output and associated performance level; whether the output is a mandatory requirement (e.g. safety or social); the quality of the data underpinning the output measure; and the relative importance of outputs from the perspective of consumers of network services. Ofgem notes that a range of issues need to be considered when designing output incentives including, but not limited to: whether incentives should be symmetrical; whether marginal incentives would be appropriate; whether incentives should be financial and/or reputational; and whether an automatic revenue adjustment should be part of the incentive mechanism.

*Output incentives
in RIIO Model*

Decisions on the incentive schemes will be made at price control reviews.

Financial incentives under RIIO would allow revenue adjustments to be made in line with network company performance in delivering primary outputs. Ofgem will use financial incentives when:

- there is clarity on the primary outputs to be delivered;
- there is confidence in the data used to measure performance;
- Ofgem considers delivery of the primary output to be important; and
- there are not already incentives in place on the network company through other schemes or obligations.

The strength of any financial incentives will depend on: confidence in the clarity of the primary output; confidence in the accuracy and reliability of the information used to measure performance against the primary output; and the importance that we and stakeholders place on achievement of the primary output. Also, Ofgem will consider a range of issues when considering the strength of incentives including but not limited to the following: estimates of the value of delivering the primary output; preferences expressed by stakeholders during consultation; historical performance of the energy network companies; external policy drivers; and high level guidance from government.

When determining the form that financial incentives Ofgem will consider matters such as: the way adjustments to revenue will be made; the timing of any adjustments; and the magnitude of potential changes to revenue.

*Efficiency
incentives in RIIO
Model*

There are two elements of the RIIO Model designed to encourage network companies to seek out value for money delivery solutions: a fixed and symmetric efficiency incentive rate for each company; and commitment to not making retrospective adjustments.

The first element is a symmetrical sharing mechanism. According to Ofgem, the efficiency incentive rate represents a commitment to the way that the revenue that the company is allowed to collect adjusts upwards or downwards in light of what it actually spends during the price control period. For example, if the efficiency incentive rate is set at 40 per cent, the company's investors will earn £40 profit (before tax) for each £100 that the company saves during the price control period and bear £40 of each additional £100 the company spends. The remainder will be passed on to consumers through lower or higher network charges. The efficiency incentive rates will be set up front (i.e., "ex ante") at each price control review. The exact rate for each company will be determined through Ofgem's existing Information Quality Incentive ("IQI") mechanism. The IQI provides a financial incentive for companies to spend the time and resources necessary to produce high quality and well-justified business plans. Ofgem comments in its Handbook for Implementing the RIIO Model, issued on October 4, 2010, that "[t]he use of the IQI will be subject to review in future price control periods. The incremental benefit of using the IQI depends on the contribution that the other tools in the assessment tool-kit can make. For instance, as companies become experienced in developing well-justified long-term business plans, and as we become experienced in assessing those plans, the incremental benefits of the IQI may reduce. At some point in the future, we may decide that the potential benefits of the IQI are not sufficient to

justify the additional complexity and administrative burden that it brings.”

The second element is Ofgem's commitment to not making retrospective adjustments to revenue in the event that costs turn out to be different to what was assumed in the price control itself, save through the application of the efficiency incentive rate. Ofgem will only consider using such “ex post adjustments” if outputs are not delivered or if it has a concern that a company has manifestly wasted money.

Another form of “incentive” is being introduced by Ofgem, in its RIIO Model: depending on the quality of a company's application, it may be “fast tracked” – that is, it may be subject to less intensive scrutiny enabling an early decision on the application. Ofgem reports that it will decide whether to “fast track” an application based on Ofgem's “proportionate assessment of value for money expenditure”. In describing this assessment, Ofgem has identified it will use a range of different tools to assess the base revenue requirement and elicit information about the expected efficient costs for a company to deliver primary outputs over time and long-term value for money Figure 4, reproduced from page 63 of Ofgem's Handbook for Implementing the RIIO Model, issued on October 4, 2010, provides some examples of the tools that could be used as part of Ofgem's assessment tool-kit.

*Business plans
and proportionate
treatment in
Ofgem's RIIO
Model*

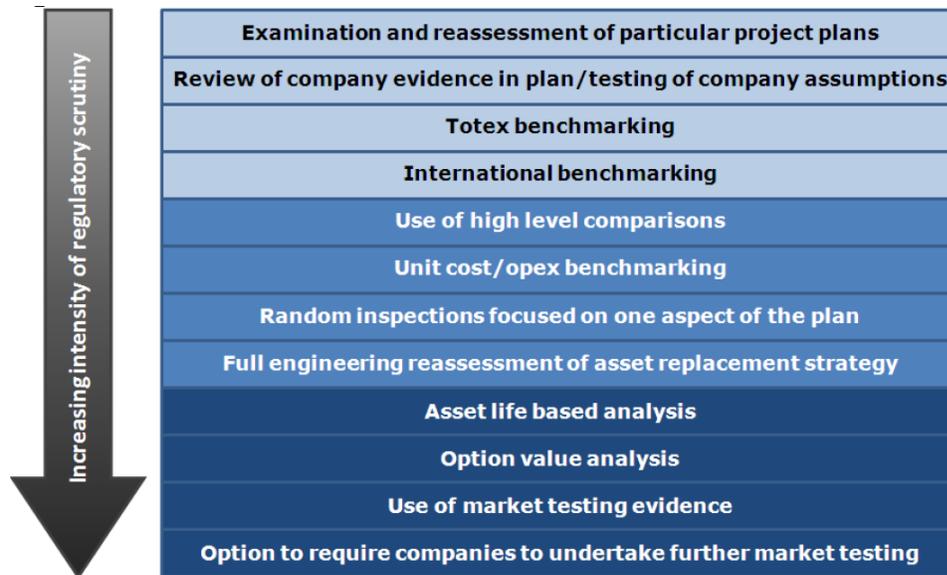


Figure 4: Ofgem's Assessment Tool-kit

Ofgem notes that “[a] range of information will be used to inform our assessment of a company’s base revenue in the price control.

When submitting their business plans companies will know that if proposals are not well-justified and not credible they will be scrutinized at a greater level of detail. However, they will not know the precise form that scrutiny might take. As such, companies will not have an incentive to adjust their plans to perform well in one assessment (e.g. an operating cost benchmarking study). Instead, the approach will encourage companies to ensure the plan as a whole, and all components of it, are well-justified.”

Review of Performance

In its RIIO Model, Ofgem notes that to facilitate application of the incentives developed for primary outputs, it will be important for it to have a clear understanding of the performance of the network companies in delivering against the primary outputs and secondary deliverables throughout the course of the price control period.

Reporting requirements

Arrangements will need to be implemented to facilitate this monitoring. As far as possible, Ofgem will build on the existing information provisions in place for regulatory reporting packs (RRPs) and regulatory instructions and guidance (RIGs).

The purpose of RRP is to provide a framework for the collection and provision of accurate and consistent cost information from the networks, in accordance with a standard condition of licence. A sample is the [Electricity Distribution Price Control Review: Price control cost reporting rules - Regulatory reporting pack - MS Excel](#).

The following RIGs are in place for Ofgem's fifth electricity distribution price control. These RIGs are provided to networks to enable them to complete the reporting requirements associated with the new price control arrangements that run from 1 April 2010 to 31 March 2015:

- [Electricity Distribution Price Control Network Asset Data and Performance Reporting – Regulatory Instructions and Guidance - PDF - 2254Kb](#)
- [Electricity Distribution Price Control Cost and Revenue Reporting – Regulatory instructions and guidance: Version 1 - PDF - 1846Kb](#)
- [Electricity Distribution Price Control Glossary of Terms for the Regulatory instructions and guidance: Version 1 - PDF - 1374Kb](#)
- [Electricity Distribution Price Control Customer Service Reporting – Regulatory instructions and guidance: Version 1 - PDF - 741Kb](#)
- [Complaints handing workbook - MS Excel - 92Kb](#)
- [Guaranteed Standard of performance workbook - MS Excel - 84Kb](#)
- [Network asset data and performance reporting workbook - MS Excel - 2995Kb](#)

- Network outputs reporting workbook HI tracking - MS Excel - 57Kb
- Network outputs reporting workbook - MS Excel - 2442Kb
- Quality of Service HV disaggregation reporting workbook - MS Excel - 216Kb
- Quality of Service Interruptions reporting workbook - MS Excel - 663Kb
- Quality of Service Interruptions stage data reporting workbook - MS Excel - 1118Kb
- Telephony reporting workbook - MS Excel - 38Kb
- Detailed connections reporting workbook - MS Excel - 1183Kb
- Cost reporting workbook - MS Excel - 4325Kb
- Financial issues reporting workbook - MS Excel - 1960Kb
- High level connections reporting workbook - MS Excel - 3195Kb
- Memo and disaggregated cost reporting workbook - MS Excel - 782Kb
- Revenue reporting workbook - MS Excel - 461Kb

To ensure it has a clear understanding of any additional information requirements, Ofgem reviews the information already collected during the period at each price control review.

To facilitate a meaningful comparison of network company performance, Ofgem will develop a balanced score card for output delivery in each of the network sectors. This will enable comparisons to be made across companies, so long as performance in delivering primary outputs is measured relative to a normalised baseline. The use of a balanced scorecard should facilitate reputational incentives and the information could be used to inform Ofgem's approach to proportionate assessment. Figure

*Scorecard
approach for
primary outputs*

5, reproduced from page 81 in Ofgem's Handbook for Implementing the RIIO Model, issued on October 4, 2010, provides an illustrative overview of the way that these scorecards could look in practice.

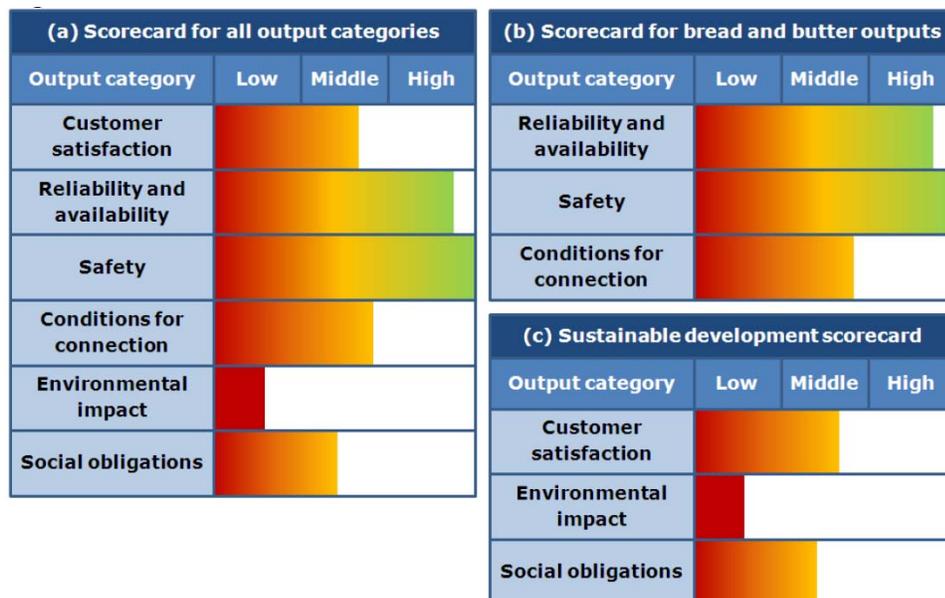


Figure 5: Ofgem's Illustrative Overview of a Balanced Scorecard

With respect to secondary deliverables, Ofgem will collect information on and monitor the secondary deliverables on an ongoing basis. For example, for network risk, network companies could put together an annual reliability report presenting broad evidence on performance and areas of concern on leading indicators of reliability, e.g. asset health. In cases where a financial penalty is attached to a secondary deliverable, appropriate compliance processes will be followed prior to a penalty being levied on a company. Whatever the arrangements agreed for secondary deliverables, network companies will remain responsible for delivering primary outputs. They will face penalty regimes, including potential licence revocation and potential risk of third parties being given a greater role in delivery in cases of persistent non-delivery.

Monitoring for secondary deliverables

Excerpt from *Strategy for the next transmission price control - RIIO-T1 Outputs and incentives*, Supplementary Annex to RIIO-T1 Decision Overview paper

Ofgem's decision on strategy for the next transmission price control *RIIO-T1 Incentives* (i.e., RIIO-T1) was issued on March 31, 2011.

Table 1.1: Key decision areas

Outputs or policy area	December proposal	Our decision/way forward
(1) System Operator (SO)/TO interactions	Consider options for aligning SO and TO incentives.	Arrangements for SO and TOs to work together in managing short-term constraints and gas shrinkage and venting. We will develop further in longer-term SO incentives work.
(2) Broad environmental output	Consider a broad environmental output and the type of incentive to apply.	We intend to introduce a broad environmental output with a reputational incentive. We will consult further on a financial incentive for electricity trans.
(3) Visual amenity	Guidance on considering the socio-environmental impacts of infrastructure in business plans.	Alongside guidance, we intend to introduce an allowance to reduce the visual impact of existing infrastructure in designated areas.
(4) Electricity transmission losses	Consider a financial incentive for losses.	We intend to set a reputational incentive on modeled avoided network losses.
(5) Customer satisfaction	Incentive on customer satisfaction based on +/-0.5% of allowed base revenue.	We intend to increase the incentive strength to +/-1% of allowed base revenue.
(6) Reliability - electricity	Reliability output using energy not supplied (ENS) and no collar on exposure.	We intend to introduce a 3% of revenue collar on financial penalties and a licence condition for minimum standard of performance.
(7) Wider works secondary deliverable	Arrangements for electricity TOs to deliver timely and efficient investments.	Secondary deliverables for wider reinforcement works. Three flexibility mechanisms to adjust base revenue and financial incentives for timely delivery.
(8) Efficiency incentive rate	Consider the efficiency rate for TOs.	We intend to apply a 40-50% efficiency incentive rate.

**Excerpt from *Decision on strategy for the next gas distribution price control - RIIO-GD1 Outputs and incentives*,
Supplementary Annex to RIIO-GD1 Decision Overview paper**

Ofgem's decision on strategy for the next gas distribution price control (i.e., RIIO-GD1) was also issued on March 31, 2011.

*RIIO-GD1
Incentives*

Table 1.1: Summary of output and associated incentives proposals and Ofgem's decision

Policy area	December proposal	Our decision/way forward
Environment (broad measure) ¹	Proposal to require companies to report on the % of bio-methane capacity connected to the networks Proposals to facilitate the connection of bio-methane	Confirmation of the bio-methane reporting arrangements; discretionary reward scheme (DRS) for companies that deliver environmental outputs not funded at price review Introduction of connection standards and provision of information for bio-methane connections We will consider connection boundary and charging arrangements for bio-methane in a separate process to the price review
Environment (narrow measure) ²	Continuation (with modifications) of the current shrinkage allowance, and Environmental Emissions Incentive (EEI)	Decision to continue and strengthen the shrinkage allowance and EEI; to align carbon value with Department of Energy and Climate Change (DECC)'s non-traded carbon value, and to remove caps/collars on the EEI
Customer service	Broad measure of customer service, comprising customer satisfaction survey, complaints metric, and discretionary reward for stakeholder engagement	Confirmation of the broad measure, and details of how the three elements will work in practice Move to incentives based on industry historical upper quartile performance for satisfaction and complaints
Social obligations	Proposals in relation to Carbon monoxide (CO) and fuel-poor network extensions scheme DRS for companies delivering outputs in relation to social objectives not funded at review	Confirmation of the proposed schemes, including DRS Detailed arrangements for the fuel poor network scheme We will confirm our policy proposals for CO once current trials are complete

Policy area	December proposal	Our decision/way forward
Customer connections	To introduce regulated margins in contestable markets; reconsider the market segments covered by the connection standards; intend to introduce standards for distributed gas customers and revise the standard timescales and penalties	Decision to maintain current margin arrangements, and guaranteed standards for existing market segments Introduce connection standards of service for distributed gas entry customers during RIIO-GD1
Safety	Replacement of the current approach to funding repex based on iron mains replaced, with an output measure based on risk removed	Confirmation of our intention to introduce a risk-removed output measure, and options on how this will work in practice Preferred option to be confirmed following companies' business plan submissions
Reliability	Development of capacity and asset health output measures. Unify incentive arrangements for meeting incremental load growth. Real option price included in interruptible contract price	Confirmation of these output measures, and details on the incentive arrangements
Broad approach to asset management	Development of risk-based approach to asset management	Confirmation of risk-based approach Licence condition to mandate the collection of data on asset health and risk to be introduced ahead of 2013

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Appendix C: Distribution & Transmission System Codes Contents

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