Outstanding Issues in the Design of an MRI for Hydro-Québec Distribution

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1. Introduction

The Régie de l'énergie ("Régie") has been engaged for several years in the development of *mécanismes de réglementation incitative* ("MRIs") for transmission and distribution services of Hydro-Québec. Decisions concerning most provisions of an MRI for Hydro-Québec Distribution ("HQD" or "the Company") were made in D-2017-043 (April 2017) and D-2018-067 (June 2018). A few issues in the design of this MRI have not been resolved. One is the form of the *clause de sortie.* Another is the linkage between service quality and the *mécanisme de traitement des écarts de rendements* ("*MTÉR*"). HQD was also asked to provide information in its next *dossier tarifaire* about a study of *productivité mulifactorielle* ("PMF") which the Régie had directed it to prepare. HQD filed a *dossier tarifaire* for an increase in rates for the 2019-20 tariff year last July. This filing included a section on the outstanding MRI issues.[1]

Pacific Economics Group Research LLC ("PEG") personnel have for many years been the leading North American consultants on MRIs for gas and electric utilities. Work for diverse clients that include consumer and environmental groups, regulators, government agencies, utilities, and trade associations has given our practice a reputation for objectivity and dedication to good regulation. In Canada we have played a prominent role in MRI proceedings in Alberta, British Columbia, Ontario, and Québec. The Association Québécoise des Consommateurs Industriels d'Électricité and the Conseil de l'Industrie Forestière du Québec have retained us and the Régie has authorized funding for us to comment on outstanding MRI issues in this proceeding and to provide our own recommendations.

Section 2 of our report reviews pertinent details of HQD's current regulatory system and of the Régie's recent MRI decisions. Outstanding MRI issues in this proceeding are then treated in succession. On each issue, a summary of HQD's position is followed by PEG's response.

[1] HQD, *Implantation d'un Mécanisme de Réglementation Incitative* (MRI) – *Phase 3*, 31 July 2017.

2. Background

HQD has for several years filed annual rate cases. A *mécanisme de traitement des écarts de rendement* ("MTÉR" or earnings-sharing mechanism) approved in D-2014-034 has been established and was implemented in 2017. The first 100 basis points of surplus earnings are shared evenly between customers and the Company. 75% of surplus earnings in excess of 100 basis points are assigned to customers, while the Company retains 25%.

Article 48.1 of the *Loi sur la Régie de l'énergie* ("the *Loi*") requires MRIs for power transmission and distribution services of Hydro-Québec.[2] These mechanisms must fulfill the following objectives:

1. *l'amélioration continue de la performance et de la qualité du service;*
2. *une réduction des coûts profitable à la fois aux consommateurs et, selon le cas, au distributeur ou au transporteur;* and
3. *l'allégement du processus par lequel sont fixés ou modifiés les tarifs du transporteur d'électricité et les tarifs du distributeur d'électricité applicables à un consommateur ou à une catégorie de consommateurs.*

In D-2017-043, the Régie approved a multiyear rate plan for HQD featuring a revenue cap index with an inflation – X + customer growth escalation formula. An X factor of 0.3% was chosen in D-2018-067 based on a process of *jugement*. HQD was nonetheless ordered to prepare a study of power distributor productivity during the MRI term for possible application in the last year of the plan. With respect to this study, "*la Régie demande au distributeur de présenter lors du dossier tarifaire 2019, la méthodologie et l'échéancier rattachés à la réalisation d'une étude PMF*."[3]

Surplus earnings that the Company achieves during the plan will be shared between the Company and its customers via an MTÉR. The Régie ruled that, apart from a possible service quality adjustment, this MTÉR should resemble that which has already been implemented.

Maintenance of service quality is an important objective of the plan. The Régie states in D-2017-043 that

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[2] Québec National Assembly, 40th legislature, 1st session, Bill n°25 (2013, Chapter 16): An Act respecting mainly the implementation of certain provisions of the Budget Speech of 20 November 2012, Chapter 1, Division 1 as passed June 24, 2013.

[3] D-2018-067, p. 33 44

[*416*] *L'établissement d'un MRI a pour but d'inciter le Distributeur à une plus grande efficience sans toutefois porter atteinte à la qualité du service*.

Performance in the following five areas

- customer satisfaction
- reliability
- power supply
- customer service
- public and employee safety

shall be measured using a limited number of familiar metrics like those already submitted in HQD's *dossiers tarifaires.* The Régie stated in its 2017 rate case decision that

> *Pour les fins d'étude d'un dossier tarifaire, la Régie considère qu'il est préférable d'avoir un nombre limité d'indicateurs, qui soient pertinents à suivre et à analyser d'un point de vue global.*[4]

The Régie ordered the Company to tie its service quality performance to its share of surplus overearnings in the MTÉR.

> [*398*] *Bien que l'inclusion d'indicateurs de performance dans un MTÉR demeure une exception dans l'industrie selon la preuve déposée par les Demandeurs, la Régie souligne que sous sa juridiction, le partage des écarts de rendement (trop-perçus) en fin d'année est lié à l'atteinte d'un pourcentage global de réalisation de qualité de service pour Gaz Métro et pour Gazifère.*
>
> [*399*] *La Régie veut s'assurer que le trop-perçu n'est pas réalisé au détriment de la sécurité du réseau ou du service à la clientèle.* […]
>
> [*417*] *Par ailleurs, la Régie souligne que les indicateurs de qualité de service deviendront une condition préalable au partage des excédents de rendement. Cette condition préalable permettra de moduler le partage des excédents, ce qui renforcera ainsi l'incitatif financier pour le Distributeur de maintenir, ou d'améliorer, la qualité de service pour ses clients*.[5]

[4] D-2017-022, p. 27.

[5] D-2017-043, p. 99.

The Régie also approved in D-2017-043 a *clause de sortie "permettant une révision ou une interruption du MRI"* under certain circumstances.[6] Details of the *clause de sortie* and the quality performance metrics and linkage to the MTÉR are as yet unresolved.

[6] D-2017-043, p. 101.

3. Treatment of Service Quality

3.1 HQD Proposal

Global Service Quality Indicator

HQD proposes to calculate a summary *indice global du maintien de la qualité du service* ("IMQ") which summarizes changes in the Company's service quality in the areas of customer satisfaction, reliability, power supply, customer satisfaction, and safety. The calculations would have two stages. First, current-year results for each metric would be normalized according to their historic means and variance.[7] This step would yield standardized values for metrics in the five performance areas such that positive values indicate improved performance while negative values indicate worsened performance compared to the historic average. Values greater than 1 (less than -1) would be above (below) one standard deviation of the historical distribution. A value of 0 would indicate quality that is exactly at the historic mean. In the second step, the IMQ would be generated by taking an average of the results for the various metrics. The summary score would have the same interpretation as the score for each standardized individual metric but at the global level.

Metrics and Targets

Reliability

HQD's proposes three reliability metrics: an *indice de continuité normalisé*, the average duration of interruptions per customer on the low and medium networks, and the number of low voltage interruptions. Targets for each of these metrics would be based on 5 years of historical data. Each metric would have a 6.67% IMQ weight.

The *indice de continuité normalisé* is a standardized continuity index designed to measure the average number of minutes that service is interrupted per interrupted medium voltage customer. This includes planned outages and asset failures. This metric is calculated as the sum of the minutes each

[7] HQD's standardization of quality metrics is based on the following formula:

$$[\, X - mean(X)] \,/\, sd(X)$$

where X is the value of the metric in the current year and mean (X) and $sd(X)$ are the mean and standard deviation of metric values, respectively, over a certain historical sample period.

medium voltage customer is interrupted divided by the number of medium voltage customers. The second reliability indicator, average duration of interruptions per customer on the low and medium networks, is measured as the sum of all customer minutes of interruption divided by the number of interrupted customers. Both of these metrics exclude planned outages. Major event days like those that result from major storms are also excluded from both of these metrics using the IEEE 1366-2003 standard as adapted for Québec by Method C.23-01. This adaptation 1) excludes interruptions attributable to HQT and 2) uses a more inclusive 4 beta threshold instead of the more common 2.5 beta threshold.

The third reliability indicator, number of low voltage interruptions, is intended to make up for the exclusion of low voltage outages from the standardized continuity index. These outages result from miscellaneous conditions that include weather, equipment, wildlife, lightning, public, vegetation, distributor interventions, and unknown conditions.

Power Supply

HQD proposes two performance metrics in this area: the average time to complete a simple overhead connection and the percentage of affected customers that are informed prior to a planned outage. Each of these metrics has a 10% weight in the global indicator.

The average time to complete a simple overhead connection measures the number of days between the receipt of a request for such a connection and the energization of the connection. This metric excludes delays attributable to customers and is calculated as a simple average. The percentage of affected customers informed prior to a planned outage was apparently redefined recently, as HQD presented actual values and recalculated historical values for a recent 5-year period. The recalculated historical performance data were used to calculate the performance target and standard deviation.

Customer Service

HQD has proposed to include two customer service metrics in the IMQ: telephone response time for residential customers and telephone response time for commercial customers. Each metric measures the time on average for an HQD representative to answer a customer's call. The weights for each of these metrics are the revenue weights for each customer class. The proposal highlights the importance of speedy responses and measures the accessibility of customer service.

Customer Satisfaction

HQD proposes two metrics for customer satisfaction which are based on surveys that it undertakes. One survey is for *grande puissance* customers while the other is for *résidentiel-commerciaux-affaires* ("R-C-A") customers.[8] The survey for *grande puissance* customers has 15 questions on specific dimensions of HQD's service, while the survey for R-C-A customers appraises HQD's service in 4 areas: power quality and reliability, billing (irrespective of price), products and services offered, and customer service.

The scores of the R-C-A surveys are averaged into a single score for each of the three classes and then weighted into a summary R-C-A indicator using revenue share weights. The scores of customer satisfaction surveys for *grande puissance* customers are also averaged into a single summary score.

The target for the combined customer satisfaction index for R-C-A customers is the average of 2 years of historical data (e.g., 2016 and 2017). The target for the *grande puissance* customer satisfaction index is based on a single year of historical data. These metrics were revised in 2016 and 2017 respectively, resulting in higher scores than in earlier years. The standard deviation calculations appear to be based on data for 2011-2015 for the small volume customer satisfaction index and for 2012-2016 for the high-power customer satisfaction index.

The weighting of the two global customer satisfaction indexes in the IMQ is also based on the share of total revenue for each class. This results in the summary customer satisfaction metric with R-C-A customers receiving a 15% weight while the metric for *grande puissance* customers have a 5% weight.

Safety

HQD proposes a single metric for this performance area: the number of accidents resulting in lost work time and temporary assignments per 200,000 hours worked. HQD has redefined this metric recently, as it presented data based on its actual reporting and a recalculated version for the most recent 5-year period. The target and variance calculations relied on the recalculated version of this metric.

[8] *Grande puissance* customers take service under tariffs L or LG or have special contracts.

Weights

HQD proposes to use equal weights for the five performance dimensions.

Linkage to the MTÉR

HQD argues that the purpose of the service quality provisions is to maintain quality rather than to improve it. The Company further argues that some service quality variation is normal from year to year. A decline in quality may not then indicate a decline in expected quality or quality effort. The proposed linkage to the MTÉR is designed so that IMQ scores could not affect earnings unless they were worse than negative one. This is the score that would result if the deterioration in each quality metric equaled its standard deviation on average. If HQD were overearning and the global index value was between -1 and -2, the Company would forfeit one percent of its surplus earnings for every one hundredth (0.01) that the index is below -1. If the global indicator had a value of -2, all overearnings would be returned to customers. If the value of the global indicator value was worse than -2, there would be no additional effect on the Company's earnings.

3.2 PEG's Response

Here are some areas where we have concerns and comments about HQD's proposed service quality performance incentive mechanism.

Metrics and Targets

Reliability

The proposed reliability metrics do not facilitate comparisons with those reported by other North American electric utilities. These comparisons are worthwhile even if the IMQ measures reliability trends. HQD noted in response to PEG DDR 2.6 that the Company participates annually in benchmarking programs of the Canadian Electricity Association and the IEEE working group on distribution reliability. Results of these comparisons should be reported annually to the Régie in as much detail as these organizations allow.

HQD proposes only systemwide reliability metrics. This incentivizes the Company to focus on actions that improve these metrics most cost effectively. HQD noted in response to PEG DDR 2.7 that its *IC normalisé* metric is calculated and published by administrative region.

Customer Service

We have the following concerns about HQD's proposed customer satisfaction metrics.

- HQD has excluded several customer service metrics that it routinely reports. Excluded metrics include the call abandonment rate, the first call resolution rate, and the number of internet contacts per residential and commercial customer.
- Several other customer service metrics are used in other jurisdictions, as we discuss further below.
- PEG is also concerned that the historical data do not in some instances reflect an adequate performance. For example, the Régie has expressed concern about HQD's recent performance on several customer service metrics.[9]

[9] In its 2017 rate case decision, the Régie noted that

> [*35*] *Au niveau des services à la clientèle, le Distributeur affiche globalement de meilleurs résultats en 2016 qu'en 2015, notamment à la suite de l'élargissement des heures d'ouverture des centres d'appels, de l'augmentation des services offerts sur le site Web, de la bonification des applications mobiles et de l'amélioration de la formation des employés.*
>
> [*36*] *La Régie constate que, de manière globale, le Distributeur améliore sa performance quant à la qualité des services offerts à ses clients et que les mesures mises en place durant la dernière année semblent porter fruits. Néanmoins, quelques résultats d'indicateurs démontrent que le Distributeur devra porter une attention particulière à certains services.*
>
> [*37*] *Les services à la clientèle ne sont pas pleinement efficaces, alors que de nombreuses réponses téléphoniques sont obtenues au-delà de 100 secondes, qu'un cinquième des clients ne voit pas ses demandes être réglées en un seul contact et que l'offre libre-service sur le site Web est encore limitée.*
>
> [*38*] *La Régie rappelle au Distributeur qu'il vise à adopter une approche client proactive fondée sur les besoins et les attentes des différents segments de sa clientèle. Le Distributeur doit donc poursuivre le développement, la simplification et l'optimisation des services offerts, afin d'offrir à terme une qualité de service de haut niveau à tous ses clients. Il s'agit d'un engagement continu du Distributeur envers sa clientèle.*
>
> [*39*] *Enfin, tel que mentionné dans sa décision D-2016-03, la Régie souligne que l'amélioration de la qualité du service doit être réalisée par l'entremise de gains d'efficience au niveau des charges d'exploitation et non par des hausses de coûts.*

Power Supply

HQD has proposed to exclude several metrics in this area which it has frequently reported on. These include the average network connection time and the average connection time for underground connections, the rate at which the Distributor meets the target date for customer request fulfillment, and a meter reading rate metric.

Safety

The proposed worker safety metric appears to be very similar to those reported by various other utilities in the United States. The metric chosen should facilitate comparisons of the level of worker safety to those of other North American electric utilities.

As suggested in paragraph [420] of Decision 2017-043, the Régie expected a metric for public safety to be included in the proposal. HQD did not include one, despite having reported on the number of deaths by electrocution in the population in several prior years. The Company notes in response to PEG DDR 2.8 that it has insufficient control over this metric.

Weights

We believe that the weights for an IMQ should reflect the relative importance of the performance dimensions and the need for penalties to discourage bad performance. While empirical evidence is lacking on these matters we believe that the five service quality areas do not merit equal weights. For example, employee safety does not warrant the same weight as reliability. HQD is already incentivized to mind its employee safety by its exposure to the risk of injury and damage expenses. This financial incentive to avoid injuries and damages should increase during the MRI.

Another concern is that if a dimension of performance has a single metric, that metric may comprise 20% or more of the global indicator. This is the case for safety, where HQD has proposed a single metric.

Targets

A five year mean of historical metric values is inappropriate for the two customer service metrics because of an evident trend towards improvement in this area of service.

Financial Provisions

Linkage to the MTÉR

We have several concerns about the financial provisions of the service quality performance incentive mechanism. One is the linkage of measured performance to the MTÉR, which does not share earnings shortfalls. The Company stated in response to PEG DDR 1.1 that

> *. . . le Distributeur a offert des services de qualité à ses clients au cours des dernières années, et cela sans autre forme d'incitatif*.

Concentric added that

> HQD's proposed mechanism addresses a concern that may be associated with the transition to an MRI plan. It presumes that HQD, or utilities more generally, have an incentive to pursue efficiency gains at the expenses [sic] of service quality under a multi-year MRI plan. . . . HQD has sufficient motivation to maintain and improve service quality without any financial penalty. . . HQD has sufficient incentive to pursue efficiency gains and maintain service quality throughout each performance year in order to realize its full share of upside earnings.[10]

Concentric stated in response to PEG DDR 1.2 that

> HQD has both a financial incentive and customer relationship incentive to maintain service quality at every earnings level, positive or negative.[11]

While there are good arguments for not sharing earnings shortfalls, and this issue has been resolved, we believe that linking service quality only to this kind of MTÉR would weaken the Company's incentive to maintain quality in periods of underearning or slight overearnings, which can easily occur. HQD's recent quality levels were established in a period of annual rate cases when incentives for cost containment were fairly weak. Under the stronger cost containment incentives generated by the MRI, relaxed quality effort can more easily bolster HQD's earnings. This is a concern whether or not the utility has surplus earnings. If HQD is only marginally overearning, for example, the mechanism may not

[10] R 4057-2018, B-0069, Réponses d'Hydro-Québec Distribution á la demande de renseignements no. 2 de l'AQCIE-CIFQ (PEG), 29 October, pp. 4-5.

[11] Ibid., p. 5.

encourage the Company to maintain its service quality performance, as the cost of compliance may be larger than the paltry revenue forfeited due to poor performance.

In our experience, service quality incentives in multiyear rate plans are not typically tied to an MTÉR. HQD stated in response to OC DDR 10.1 that "*le Distributeur considère que l'inclusion d'indicateurs de performance dans un MTÉR est une exception dans l'industrie.*"[12]

Dead band

The substantial dead band in the mechanism linking the IMQ and the MTÉR is also controversial. Effectively, the Company would know that its quality metrics could decline by the amount of the standard deviation with no penalty. This is not the way firms in competitive markets experience the consequences of substandard quality. Concentric notes in response to OC DDR 2.2 that "A threshold that is set too low can provide an incentive for the utility to cut costs in the short-term in order to improve earnings."[13]

One of the rationales for the dead band is that service quality metrics are sensitive to volatile external business conditions. Another is that the Company would receive no rewards for quality improvements. However, these fluctuations, which may differ between the metrics and can be favorable as well as adverse, should tend to balance out during the course of the plan.

Penalty Rates

HQD provides no evidence that the financial penalties that it proposes for poor service quality are appropriate. It would be quite a coincidence if the appropriate penalty for a 200 basis point decline in the IMQ was to eliminate surplus earnings. Unfortunately, rough and ready methodologies are frequently used for setting award and penalty rates of MRI quality performance incentive mechanisms. More sophisticated rates would consider the marginal benefits and costs of changes in quality.

[12] HQD-14, document 8.1, p. 14.

[13] R 4057-2018, B-0075, Réponses d'Hydro-Québec Distribution á la demande de renseignements no. 2 d'OC, 29 October, p. 5.

Precedents

PEG has surveyed 6 recent U.S. service quality incentive mechanisms as well as the previously approved mechanisms in MRIs of Gaz Métro and Gazifère. All of the U.S. mechanisms surveyed have weights for different quality dimensions. Only one of the U.S. mechanisms ties performance results to earnings and in this case the MTÉR also shares earnings shortfalls.[14]

Quality metrics used in performance incentive mechanisms and the weights assigned to the major quality areas are detailed in Table 1. A similar table outlining the service quality metrics all Ontario power distributors are required to report in their scorecards is provided in Table 2. Here are some noteworthy results.

- Reliability metrics had a combined weight of 65% on average. Customer service metrics had a combined weight of 24% on average.
- Only one performance incentive mechanism surveyed had a safety metric tied to a performance incentive mechanism.
- The typical reliability metrics are SAIDI and SAIFI.
- Commonwealth Edison, which serves a large rural area as well as Chicagoland, itemizes SAIFI performance on a regional level.
- Another Commonwealth Edison metric addresses the number of customers experiencing unusually bad service.

[14] This mechanism is part of Mississippi Power's retail formula rate plan. The mechanism ties service quality performance to the allowed ROE and dead band around which rates will be reset. Mississippi Power's service quality performance also affects the amount of surplus/deficit earnings which the utility is allowed to keep/absorb. Superior performance allows for a higher allowed ROE and rates will be reset to a point more favorable to the company, either increasing the surplus earnings the company may retain or reducing deficit earnings. Inferior performance results in a lower allowed ROE and rates being reset such that Mississippi Power is forced to return a greater level of surplus earnings or absorb a higher level of deficit earnings.

Table 1

Service Quality Incentive Mechanisms of Sampled U.S. Electric Utilities[1]

Company Name (Jurisdiction)	Metric Performance Area	Metric(s)	Weight on Performance Area
Mississippi Power (Mississippi)[2]	Customer Satisfaction	Customer Satisfaction Index	33%
	Reliability	Reliability Index (duration)	67%
Commonwealth Edison (Illinois)[3]	Reliability	System Average Interruption Frequency Index ("SAIFI")	Weights vary during the 10 year plan between 80 and 85%
		Customer Average Interruption Duration Index ("CAIDI")	
		Southern Region SAIFI and Northeastern Region SAIFI	
		Service Reliability Targets (e.g., the number of customers experiencing more than X number of controllable interruptions or Y hours of total interrruption duration in each of the last three consecutive years)	
	Customer Service	Estimated Electric Bills	Weights vary during the 10 year plan between 20 and 15%
Northern States Power (Minnesota)	Customer Service	Customer Complaints	57%
		Telephone Response Time	
		Accurate Invoices	
		Invoice Adjustment Timeliness	
	Reliability	System Average Interruption Duration Index ("SAIDI")	43%
		SAIFI	
		Customer Outage Refunds	
Hawaiian Electric Company (Hawaii)[4]	Reliability	SAIFI	83%
		SAIDI	
	Customer Service	Speed of Answer (Calls answered within 30 seconds)	17%
All Massachusetts Power Distributors[5]	Reliability	SAIDI	Weights vary based on whether SAIDI and SAIFI penalties are triggered. If they are, weight is 55%. If not, the weight is 22.5% (difference is not used as a penalty)
		SAIFI	
		Poor Circuit Remediation - Circuit Average Interruption Duration Index ("CKAIDI")	
		Poor Circuit Remediation - Circuit Average Interruption Frequency Index ("CKAIFI")	
	Customer Service	Service Appointments	45%
		Consumer Complaints to Regulator's Consumer Division	
		Customer Credit Cases	

[1] To ensure comparability with the proposals of HQD and HQT, we have excluded all metrics for demand-side management, peak load management, and other metrics that are not similar to those included in the HQT and HQD proposals.

[2] This table also excludes Mississippi Power's metric for customer price.

[3] We have used 82.5% for the reliability weight and 17.5% for the customer service weight in the average.

[4] This table excludes Hawaiian Electric's metric for renewable generation procurement.

[5] We have assumed that the SAIDI or SAIFI penalty has been triggered. We also exclude any metrics that do not have financial incentives attached to them in 2019 and beyond.

Table 1 (continued)

Service Quality Incentive Mechanisms of Sampled U.S. Electric Utilities

Company Name (Jurisdiction)	Metric Performance Area	Metric(s)	Weight on Performance Area
Consolidated Edison (New York)[6,7]	Reliability	Network Outage Duration	58%
		CAIDI - Radial network	
		Network Outages per 1,000 customers	
		Summer Open Automatics (Network)	
		SAIFI - Radial	
		Major network outage duration (per event)[7]	
		Major radial outages (per event)[8]	
		Remote Monitoring System Reporting (per network)[9]	
		Pole Repair	
		Winter Shunt Removals	
		Summer Shunt Removals	
		Winter Repairs of No Current Street Lights and Traffic Signals	
		Summer Repairs of No Current Street Lights and Traffic Signals	
		Replacement of Over-duty Circuit Breakers (Annual Target)[9]	
		Transmission and Distribution Inspections[10]	
	Customer Service[9]	Commission Complaints	9%
		Outage Notification	
		Call Answer Rate	
		AMI Customer Awareness Survey[12]	
		Uncollectible Bills/Residential Service Terminations[12]	
	Customer Satisfaction[9]	Customer Satisfaction (Emergency Calls)	9%
		Customer Satisfaction (Non-Emergency Calls)	
		Customer Satisfaction (Service Center Visitors)	
		DG Interconnection Timeliness and Customer Satisfaction[11]	
	Safety	Stray Voltage Testing[10]	24%

Average Weights		
	Reliability	65%
	Customer Service	24%
	Other[13]	11%

[6] This table excludes several metrics for Consolidated Edison which address "utility of the future" policy issues, such as distributed energy resource utlization and customer energy intensity.

[7] Assumes one event lasting longer than 12 hours (maximum penalty for a single outage).

[8] Assumes one event.

[9] Assumes maximum financial incentive is triggered.

[10] Penalty is expressed in basis points of return on equity. We have calculated the penalty using data for 2019 on capital structure and rate base as outlined in Consolidated Edison's most recent MRI decision.

[11] Penalty is expressed in basis points of return on equity. In the settlement, the parties estimated the revenue at risk for each year of Consolidated Edison's MRI. The weights in this table rely on the parties' estimate of the maximum incentive for this metric in 2019.

[12] This is the maximum value for the rate plan. However, the full value of this metric is shared between the gas and electric department. The weight of this metric in the table includes only the amount allocated to the electric department.

[13] Other includes customer satisfaction and safety metrics.

Table 2

Service Quality Incentive Mechanisms of Ontario Electric Utilities[1]

Metric Performance Area	Metric(s)
Customer Satisfaction	Customer Satisfaction Index
Customer Service	Rate at which customer issues are resolved on first contact with company
	Billing Accuracy
	Percentage of Calls Answered within 30 Seconds
	Percentage of Scheduled Appointments Met on Time
Power Supply	New Residential/Small Business Services Connected on Time
	Renewable Generation Connection Impact Assessments Completed on Time
	New Micro-embedded Generation Facilities Connected On Time
Reliability	SAIDI
	SAIFI
Safety	Serious Electrical Incident Index (incidents per 10, 100, or 1000 km of line)
	Number of General Public Incidents
	Compliance with Ontario Regulation 22/04
	Public Awareness of Electrical Safety

[1] All Ontario electric utilities are required to report these items in a scorecard. Performance on these metrics is not tied to a financial incentive. There are therefore no weights attached to these metrics.

- Massachusetts power distributors are required to report SAIDI and SAIFI by circuit. Any circuit(s) or feeder(s) that appear among the worst five percent of all the Company's active circuits or feeders for two consecutive years are labeled Problem Circuit(s). Any Problem Circuits that appear among the worst five percent of all the Company's circuits or feeders for the third consecutive reporting year are labeled a Chronic Circuit. At the end of the third year, if the mean of the CKAIDI/CKAIFI values of the Chronic Circuits is greater than the company-specific mean plus two company-specific standard deviations, the company is subject to a monetary penalty.
- Several additional areas of customer service have metrics. Some of the most common ones are customer complaints and billing accuracy.

In most cases, financial incentives are tied directly to performance on individual metrics. For example, a failure to meet the customer satisfaction index target is linked to a specific penalty. Some mechanisms do incorporate dead bands to allow a utility to have some deterioration in quality before

penalties are applied. Mechanisms that permit improvements in some quality areas to offset declines in others are not common but do have precedent.

PEG's Alternative Service Quality Incentive Mechanism Proposal

We recommend the following revisions to HQD's proposed service quality mechanism.

- The weights on safety, power supply, and customer service should each be reduced to 10%. These weights should be transferred to the reliability metrics. The weight on the reliability metrics would then be 50%.
- A reliability metric should be added which addresses service in more rural areas. First call resolution rate should be added as a customer service metric.
- The targets for the customer service metrics should be a three year rather than a five year average of their recent historical values.
- There are ways to avoid a dead band in the penalization for declining quality which are fair to HQD. For example, the Company can be subject to a revenue penalty only at the end of the plan and in the event that there is an average decline in IMQ scores on balance over the four years of the MRI term. Improvements in quality in some areas would be allowed to offset quality declines in other areas. However, HQD would receive no reward for a rise in the IMQ.
- The Régie should reconsider its decision to penalize HQD for poor quality only when the Company has surplus earnings. In principle, it can approve a supplemental revenue adjustment that doesn't conflict with its decision to link the MTÉR to service quality. Here is an example.
    - Declining service quality will reduce allowed revenue formulaically. For example, the decline in revenue for a 100 basis point decline in quality can be the same as the decline in HQD's proposal from an IMQ of -2 assuming 100 basis points of excess earnings. To guard against excessive penalties, it is reasonable to place a cap (e.g., 3% of allowed revenue) on these penalties.

- If the indicated revenue reduction for declining quality is less than HQD's share of surplus earnings under the existing MTÉR formula, the Company's share will be reduced by this amount.
- If the indicated revenue reduction for declining quality exceeds the Company's share of surplus earnings, HQD will retain no surplus earnings. Allowed revenue will be further reduced by the amount necessary to achieve the indicated revenue reduction.

4. Other Outstanding Issues

4.1 *Clause de Sortie*

HQD's Evidence and Proposal

HQD embraces a proposal from Concentric that the *clause de sortie* be triggered if the Company's rate of return varies by more than 150 basis points from its target in either direction. If the clause is triggered, the MRI would be suspended and HQD would at least temporarily return to cost of service regulation. Concentric further explained in response to PEG DDR 3.1 that

> As a practical matter, the determination that the off-ramp is triggered will not be made until May of the subsequent year when the Annual Report is filed. HQD would file a proposal for new rates based on the forecasted cost of service, with the new rates to take effect on April 1st of the next year. HQD would include a proposal on how to handle the "gap" year during which rates would continue to be established by application of the MRI formula. The Régie would make a final determination as part of the rate case review process.[15]

Concentric contributed a brief report on a survey of precedents for MTÉRs and *clauses de sortie* in other Canadian MRIs.

PEG's Response

The proposed *clause de sortie* is too conservative, especially in the event that the Company has negligible or negative earnings. Since Hydro-Québec has shown little enthusiasm for multiyear rate plans, HQD might even be tempted to acquiesce in a year of low earnings to escape from the MRI and return to cost of service regulation. The relatively short four-year term of the plan, Y and Z factors, and the MTÉR reduce the likelihood of extreme earnings outcomes.

Concentric's survey does not support its *clause de sortie* recommendation.

- In many *clauses de sortie* that Concentric surveyed, the action trigger has been larger than a single 150 basis point post-MTÉR earnings variance.
- Several plans surveyed do not have a *clause de sortie.*

[15] R 4057-2018, B-0069, Réponses d'Hydro-Québec Distribution á la demande de renseignements no. 2 de l'AQCIE-CIFQ (PEG), 29 October, p. 15.

- *Clauses de sortie* do not always require suspension of the MRI and a return to cost of service regulation when action is triggered. For example, Concentric stated in response to PEG DDR 11.2 in the companion HQT proceeding, where the same survey was discussed, that

  > Among the utilities shown in Tables 1 and 2 of our report, ENMAX (in its 2007 plan) and the Ontario utilities have provisions to either "address the issue that triggered the re-opening" or "initiate a regulatory review." Additionally, the generic PBR framework in Alberta warrants "consideration of a reopening and review of a PBR plan" when the basis point threshold is triggered. In British Columbia, before a plan is terminated it is reviewed to address potential remedies.
  >
  > For gas distributors, as discussed above the generic PBR framework in Alberta warrants "consideration of a reopening and review of a PBR plan" when the basis point threshold is triggered. The specifics of Alberta's PBR reopener provisions are discussed on pages 71-75 of AUC D-20414-D01-2016. The reopener is not automatic, rather it may be initiated by the company or by the Commission.
  >
  > In British Columbia, FEI's off ramp sets "in motion a two-stage process. The first stage consists of a process before the Commission to assess potential remedies to the situation, including the potential for amending or re-calibrating the PBR plan to allow it to continue. A second stage to the process would be triggered if satisfactory solutions could not be found through modification of the PBR plan. This stage would deal with how to exit from the plan. This could include a variety of options from going back to a cost of service methodology to a redesign of the PBR."
  >
  > In Ontario, Enbridge's 2008 PBR plan included a provision for the Company to file an application with the OEB for a prospective review of its adjustment formula. In Enbridge's subsequent plan, the OEB is to "monitor Enbridge's results and carry out a review if Enbridge over-earns or under-earns more than 300 basis points. [footnotes omitted][16]

PEG recommends a *clause de sortie* similar to that approved in Alberta wherein action is triggered when the pre-MTÉR ROE varies from its target in either direction by 400 basis points in one year or 300 basis points for two consecutive years. The Régie should then review the plan and consider whether to continue with the plan, revise it, or return to cost of service regulation. A year of cost of service regulation should not be automatic.

[16] R 4058-2018, B-0067, Réponses du Transporteur, 23 October, p. 21.

4.2 PMF Study

HQD's Evidence and Proposal

HQD disregarded the Régie's order to present its methodology for the PMF study in its 2019 *demande tarifaire.* The Company stated in response to OC DDR 11.1 that

> *Le Distributeur présentera la méthodologie retenue pour la réalisation de l'étude PMF au cours du deuxième trimestre de 2019, comme indiqué à la section 3 de la pièce HQD-3, document 3 (B-0053), et cela en suivi de la D-2017-043. . . Comme il s'agit de la méthodologie aux fins de la réalisation de l'étude du Distributeur, cette présentation se veut à titre informatif uniquement.*[17]

In response to DDR 21.1 of the Regie, HQD indicated that it would not present detailed cost data in its annual reports to the Regie.

PEG Response

HQD disregarded the Régie's order to present its methodology for the PMF study in its 2019 *demande tarifaire.* We believe that establishing some guidelines in advance of the study concerning its scope and methodology can encourage HQD to hire a consultant with the right expertise and to produce a constructive study. In the absence of Régie guidelines, the Company is more likely to produce an inadequate and self-serving study and then argue that requests for additional work are unreasonable.

We believe that the study should consider alternative productivity measurement methodologies and sample periods and thoroughly discuss their pros and cons. Productivity trends in the use of CNE and capital inputs should be considered as well as the trend in multifactor productivity. Productivity trends of HQD should be measured as well as productivity trends of other utilities. Hydro One's recent evidence in proceedings considering MRIs for its transmission and distribution services included estimates of its own productivity trends as well as industry trends. We also believe that HQD should be required to file a statistical cost benchmarking study of its cost level. This could be an econometric benchmarking study like those which Hydro One and Toronto Hydro-Electric file in Ontario MRI proceedings.

[17] R 4057-2018, B-0074, Réponses d'Hydro-Québec Distribution á la demande de renseignements No. 1 d'OC, 29 October 29, p. 16.

Note, finally, that when HQD submits its proposed methodology intervenors should have the opportunity to comment on the proposal. This commentary should aid the Régie as it considers an appropriate response.

HQD should in any event continue to file detailed data on its costs during the MRI. A well-managed company would want to monitor its itemized costs, and consumers and Regie staff also have a interest in these data. Provincial law has, after all, called for a regulatory system that encourages performance improvement and these data can be useful in monitoring the extent and nature of improvements. Distributors in the United States and Ontario are required to file detailed cost data annually whether or not they operate under an MRI. The Ontario Energy Board is in the process of joining its peers in Australia and Britain by developing a capability to benchmark itemized costs.[18]

4.3 Generic Z Factor

HQD Proposal

HQD has also requested that the Régie approve a generic Z factor to record the cost of potential Z factors that are "unpredictable" and not integrated into the Company's revenue requirement. Costs recorded in the generic Z factor would be incorporated into a neutralization account which the Régie would review in a subsequent dossier tarifaire to ensure that the cost is eligible for Z factoring. If deemed eligible, the Régie would also determine how the cost should be addressed.

PEG Response

We oppose the establishment of the proposed general Z factor mechanism. This would save very little time and regulatory cost and may serve to prejudge the issue of Z factor eligibility. To our knowledge this type of mechanism is rare in MRIs.

[18] PEG is advising the Board on this "activities and programs benchmarking" initiative.