Témoignage de M. Robert C. Yardley de Concentric Energy Advisors sur le mécanisme de partage des écarts de rendement

Earnings Sharing Mechanisms

Prepared Direct Testimony of

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On behalf of Hydro-Québec Distribution

and Hydro-Québec TransÉnergie

Presented to the

Régie de l'énergie

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TABLE OF CONTENTS

ATTACHMENT A – ESM MECHANICS AND EXAMPLE

1   **I.   INTRODUCTION AND QUALIFICATIONS**

2   **Q.   Please state your name, title, and business address.**

3   A.   My name is Robert C. Yardley, Jr. and I am a Senior Vice President of Concentric Energy

4   Advisors, Inc. ("Concentric"). My business address is 293 Boston Post Road West, Suite

5   500, Marlborough, MA 01752.

6   Concentric provides regulatory, economic market analysis, financial advisory and

7   management consulting services to energy firms and organizations throughout North

8   America.

9   **Q.   Please describe your experience in the energy and utility industries.**

10   A.   I have more than 30 years of experience in the energy industry, having worked as a

11   consultant and executive at energy consulting firms for most of my career. For two of

12   those years, I served as Chairman of the Massachusetts Department of Public Utilities,

13   the agency responsible for regulation of the electricity, natural gas, telecommunications

14   and water industries in the Commonwealth of Massachusetts. I have testified before state

15   regulatory agencies and the Federal Energy Regulatory Commission on ratemaking,

16   regulatory policy, earnings attrition, incentive regulation, integrated resource planning,

17   distribution system planning, and emergency storm response. My qualifications are

18   detailed more fully in the curriculum vitae.

19   **Q.   On whose behalf are you submitting this testimony?**

20   A.   I am submitting this testimony on behalf of Hydro-Québec Distribution ("HQD") and

21   Hydro-Québec TransÉnergie ("HQT").

1   **Q.   What is the purpose of your testimony in this proceeding?**

2   A.   The purpose of my testimony is to present a recommendation for Earnings Sharing

3   Mechanisms ("ESMs") for HQD and HQT that responds to the direction of the Régie de

4   l'énergie (the "Régie") that HQD and HQT propose an ESM. An ESM is a regulatory

5   mechanism that provides for customer sharing of portion of utility earnings that are

6   either higher or lower than the level of earnings that equates with the authorized return

7   on equity ("ROE") during a specified period.

8   **Q.   How is the remainder of your testimony organized?**

9   A.   The remainder of my testimony is presented in three sections. The next section provides

10   basic information about ESMs, including the key parameters that serve to define a

11   particular ESM and the factors that are often considered by regulators when evaluating

12   the appropriateness of an ESM formula. Section III describes particular circumstances

13   that have a potential bearing on the design of the ESM for HQD and HQT. Finally,

14   Section IV presents a specific proposal that is responsive to the request of the Régie and

15   balances the interests of HQD, HQT and their customers.

1   **II.   EARNING SHARING MECHANISMS**

2   **Q.   What is the primary purpose of an ESM?**

3   A.   The primary purpose of an ESM is to share earnings with customers that deviate in a

4   meaningful way (positive and negative) from the level of earnings associated with the

5   authorized ROE. It is probable that revenues, costs and rate base will each deviate from

6   the assumptions that are used as the basis for calculating rates whether the ratemaking

7   approach is based on an historical test year with post-test period adjustments or whether,

8   as in the case of HQD and HQT, rate calculations are based on a forward-looking test

9   year.   Thus, it is probable that the realized ROE will be higher or lower than the

10   authorized ROE. The ESM apportions this deviation in earnings between customers and

11   the utility based on a prescribed formula.

12   One way to think about an ESM is that it helps to safeguard against an earnings outcome

13   that may be unacceptable to either customers (or regulators on their behalf) or to the

14   utility. In this respect, ESMs are a form of variance management. However, rather than

15   focus narrowly on a particular revenue, cost or rate base circumstance that contributes to

16   the variation in earnings as is the case with a variance or deferral account, the ESM

17   focuses on the end result and thus captures all such contributing circumstances in a single

18   measure after any variance and deferral accounts have been reflected. By focusing on the

19   end result, the ESM reduces the regulatory burden associated with a more detailed inquiry

20   into the specific circumstances that contributed to earnings variations although the

21   attribution of sharing to customers will typically require a regulatory procedure.

1 **Q.** **What are some of the reasons why the realized ROE will differ from the**

2 **authorized ROE?**

3 A. The actual ROE will deviate from the authorized ROE for various reasons. For example,

4 sales levels and associated revenues may be higher or lower than reflected in the

5 calculation of rates due to changing economic conditions. Global economic conditions

6 may impact a major regional industry in ways that had not been anticipated when the

7 sales forecast was developed. The costs and commissioning of new transmission or

8 distribution facilities may be affected by unanticipated changes in the costs of

9 components or in the length of time required to complete construction. These

10 unanticipated revenue and cost trends will impact the realized ROE to the extent that

11 they are not covered by variance and deferral accounts. There are also opportunities for

12 the utility to influence the level of costs by implementing initiatives that result in more

13 efficient operations, and therefore increase earnings.

14 As I will discuss below, the potential impact on a utility's incentive to pursue operating

15 efficiencies is a particularly important consideration when designing an ESM.

16 **Q.** **Does the variability of earnings depend on the length of time that rates are in**

17 **effect?**

18 A. In general, it is reasonable to expect that earnings variability will increase as rates remain

19 in effect for a longer period. This will occur because revenues, costs, and rate base – the

20 three basic elements of the ROE calculation – are more likely to deviate, as time

21 progresses, from the amounts that have been used in the calculation of rates. However,

22 this may not always be the case to the extent that the variations in individual revenue, cost

23 and rate base accounts offset each other. Earnings variability may also be moderated by

1   the presence of variance and deferral accounts, revenue stabilization mechanisms, and

2   other cost recovery mechanisms.

3 **Q.   Why is the length of time that rates will be in effect relevant for purposes of**

4   **implementing an ESM?**

5 A.   One of the purposes of an ESM is to provide some protection against earnings variability

6   to both customers (through an opportunity to share in earnings that exceed the

7   authorized ROE) and the utility (to the extent that customers share in any earnings

8   shortfall that is below the authorized ROE). Thus, an ESM provides protection to both

9   customers and the utility against unanticipated earnings levels, and acts as a hedge against

10   earnings variability. It is more likely that the realized ROE will deviate from the

11   authorized ROE as the length of time that rates will be in effect increases in part because

12   longer time periods increase the incentive that utilities have to pursue operating

13   efficiencies. Although ESMs can be designed for a single rate plan year, they are more

14   commonly associated with rates that are expected to be in place for two or more years.

15   ESMs are also a common element of incentive regulation plans. Incentive regulation

16   plans can be quite complex but typically break the linkage between costs and rates after

17   the initial year of the plan, with rates changing after the first year in accordance with an

18   approved formula.

19 **Q.   What are the key parameters of an ESM?**

20 A.   The ESM begins with the calculation of realized earnings for a preceding twelve-month

21   period and this calculation is typically performed for each year of a multi-year rate plan.

1   Some adjustments could be necessary (such as the exclusion of revenue, cost, or plant

2   items) to ensure a valid comparison between the authorized and realized ROE.

3   Using this comparison as a starting point, ESMs are defined by two key parameters (1)

4   the size of a "deadband" around the authorized ROE, and (2) the "customer sharing

5   percentage" or the sharing of earnings with customers that applies when realized earnings

6   fall outside of the deadband.

7 **Q.   Please describe the deadband in more detail.**

8 A.   The "deadband" is a range around the authorized ROE within which there is no sharing,

9   i.e., the utility absorbs 100% of earnings "shortfalls" and retains 100% of "surplus"

10   earnings. Thus, there is no customer sharing within the deadband. Customer sharing

11   begins when the realized ROE falls outside of the deadband. A common deadband is

12   ± 100 basis points but there are also examples of ESMs with deadbands of ± 150 or 200

13   basis points. There have also been a more limited number of ESMs where there is no

14   deadband and customer sharing begins with the first dollar of earnings either above or

15   below the authorized ROE.

16   One of the purposes of having a deadband is to reflect the normal ebb and flow of the

17   business and provide an incentive for the utility to manage costs throughout its

18   operations. A second, but related purpose, is to provide an incentive for the utility to

19   implement initiatives that are designed to achieve operating efficiencies. These factors

20   contribute to the evaluation of the size of the deadband.

1 **Q.** **Please describe the customer sharing parameter.**

2 A.   The second parameter, or set of parameters for more complicated ESMs, specifies the

3   degree to which customers will share in earnings that fall either below the lower limit of

4   the deadband ("downside sharing") or above the upper limit of the deadband ("upside

5   sharing"). Customer sharing percentages of 50% are the most common, although there

6   are also examples with 25% and 75% customer sharing with shareholders receiving the

7   balance. Some ESMs have tiered sharing formulas, with different customer sharing

8   percentages as realized earnings deviate further from the authorized ROE.

9   An ESM with the same customer sharing percentages on the downside and the upside is

10   considered to be a "symmetric" ESM. There are also "asymmetric" ESMs with different

11   customer sharing percentages that apply to the upside and downside. In fact, most of the

12   ESMs that have been approved in Canadian jurisdictions only provide for customer

13   sharing on the upside; utilities are required to absorb 100% of earnings shortfalls. The

14   experience in the United States is more varied with many ESMs providing for both

15   upside and downside sharing. The basic mechanics of an ESM, including a simplified

16   example, are presented in Appendix A.

17 **Q.** **How are the results of the ESM attributed to customers?**

18 A.   The ESM is typically applied to earnings during each pre-defined twelve-month period

19   (often a calendar year or customary financial reporting period) and subject to regulatory

20   review to attribute sharing to customers in a future period.

1   There are examples in which the customer sharing in surplus earnings is reflected by

2   crediting a deferral account balance rather than attributed to customers in the subsequent

3   period.

4   **Q.   What factors do regulators consider when evaluating an ESM?**

5   A.   Although there are many variations of the ESM formula (e.g., size of the deadband,

6   customer-sharing percentages, tiered sharing, symmetric vs. asymmetric), regulators must

7   ultimately resolve two conflicting objectives of ESMs: (1) a desire to constrain earnings

8   variability, and (2) a desire to provide the utility with an incentive to pursue operating

9   efficiencies.

10   To the extent that constraining earnings variability is of paramount importance, this

11   supports a relatively narrow deadband and greater customer sharing percentages. If the

12   regulator is primarily concerned with upside earnings, this supports an asymmetric ESM

13   that shares only on the upside with the utility absorbing all of the downside earnings risk.

14   Under these circumstances, it may be appropriate for regulators to approve a somewhat

15   larger upside deadband and/or lower customer sharing to balance the risks being

16   assumed by the utility under an asymmetric ESM.

17   ESMs potentially act as a disincentive for utilities to pursue operating efficiencies because

18   a portion of the resulting savings is attributed to customers, especially when the deadband

19   is narrow and customers sharing percentages are high. To the extent that this is a

20   concern, regulators prefer a broader deadband and lower customer sharing percentages.

1   **Q.**   **Can ESMs provide an incentive to pursue efficiency gains?**

2   A.   As long as the ESM includes a meaningful opportunity for the utility to retain a portion

3   of efficiency gains, it will encourage the utility to design and implement initiatives to

4   realize these efficiencies. An understanding that an ESM will remain in place for a

5   number of years, even under circumstances where rates are reset more frequently, will

6   help to promote efficiency gains that may require an up-front investment, are difficult to

7   obtain, and/or take time to develop. However, where rates are in effect for only a year or

8   two, the ability to achieve efficiency gains will benefit from a broader deadband and/or

9   lower overall customer sharing.

10   **Q.**   **Are there other design elements that reveal the tension between these two**

11   **objectives?**

12   A.   Tiered sharing formulas can be designed to either increase the percentage of customer

13   sharing as earnings increase or they can incorporate a decreasing customer share as

14   earnings increase. The former approach reflects a desire by regulators to constrain upside

15   earnings as their primary objective; the latter indicates that the regulator is primarily

16   focused on providing an incentive for the utility to aggressively pursue efficiency gains.

17   **Q.**   **Is it helpful to examine the ESMs that have been implemented by other North**

18   **American utilities?**

19   A.   It is informative to examine other ESMs because they reveal the variety of mechanisms

20   that have been implemented in other jurisdictions. However, the fact that another

21   jurisdiction has adopted a particular ESM formula does not imply that this same formula

22   would be appropriate for either HQD or HQT.   First, the ESM is only one element of

23   an integrated regulatory context. Further, many ESMs may be one element of a

1 comprehensive rate filing or a rate settlement, and the agreement on the specific ESM

2 formula will reflect tradeoffs that have been arrived at among the parties on any number

3 of terms. For these reasons, a comparison among ESM formulas on a stand-alone basis is

4 of limited value.

5 **Q. In general, what is the relationship between the authorized ROE and the design**

6 **of an ESM?**

7 A. The design of an ESM implicitly assumes that the authorized ROE has already been

8 established at the appropriate level based on the applicable regulatory and legal

9 requirements. Thus, once the authorized ROE is established at the appropriate level, the

10 ESM is structured to provide for sharing around the authorized ROE.

11 Failure to set the authorized ROE at a fair level as an initial matter will result in a

12 different and less transparent sharing of earnings between customers and the utility.

13 Consider the circumstance in which the authorized ROE is established at 100 basis points

14 below its fair value and the ESM has a ± 100 basis point deadband around the authorized

15 ROE. The purpose of the deadband is to account for the normal ebb and flow of the

16 business and provide an opportunity for the utility to retain efficiency gains that are in

17 excess of the authorized ROE. However, in this circumstance, the utility would need to

18 generate efficiency gains to merely earn its appropriate ROE (over and above any

19 efficiency gains that have already been reflected in the cost of service) and then would

20 immediately share in any earnings in excess of the fair ROE level.

1   **Q.**   **If the Régie approves an ESM for HQD and HQT, will that affect the level of risk**

2   **faced by those entities?**

3   A.   As discussed in the joint testimony of Mr. Coyne and Mr. Trogonoski, a reasonably

4   balanced ESM should not materially impact the level of risk faced by HQD and HQT.

5   Moreover, the ESM would need to be markedly distinct from comparable mechanisms

6   included in the proxy group that is used to establish the authorized ROE in order for it to

7   have a meaningful impact on the level of risk faced by HQD and HQT relative to the

8   comparable group of utilities.

9   **III. HQD AND HQT CIRCUMSTANCES**

10   **Q.**   **Are there any circumstances that are unique to either HQD or HQT (or both) that**

11   **might affect the design of an ESM?**

12   A.   There are several circumstances that are relevant for purposes of designing an ESM for

13   HQD and HQT. These include:

14   • the recent earnings experience;

15   • the practice of filing annual rate cases based on cost-of-service principles; and

16   • the presence of variance and deferral accounts.

17   **Q.**   **What is the recent earnings experience of HQD and HQT?**

18   A.   As presented in Table 1, HQD and HQT have each been able to earn in excess of their

19   authorized ROE over the past five years, with the exception of HQT in 2007.

1   **Table 1**
2   **Realized vs. Authorized ROE**

	HQT	HQD
2007	-1.28%	+0.31%
2008	+0.85%	+0.90%
2009	+1.77%	+3.16%
2010	+1.69%	+4.94%
2011	+1.44%	+2.86%

3

4   A review of the underlying data indicates that these results are primarily attributable to a

5   combination of factors including sales and supply cost variances for HQD, variances due

6   to pension expenditures and declining interest rates, and other variances that are

7   attributable to the ability of HQD and HQT to achieve savings in the level of Operating

8   Expenses.

9   The table above also indicates that HQD has experienced greater earnings variability than

10   HQT over this five-year period. However, it reveals little about whether either HQD or

11   HQT will be able to continue to earn in excess of their authorized ROE in the future.

12   **Q.   Are there any reasons why HQD might have experienced greater earnings**

13   **variability than HQT?**

14   A.   There are at least two reasons why HQD has experienced greater earnings variability than

15   HQT over the past five years.

16   First, HQT is relatively insulated from variations in revenues. Approximately 90% of

17   HQT's revenues are provided by HQD (native load transmission service) and are fixed

1   on an annual basis. The remaining 10% of HQT revenues (point-to-point transmission

2   services) are subject to a variance account. HQD experiences variances from sales levels

3   that are either higher or lower than the sales levels relied upon to calculate rates.

4   Second, a much larger proportion of HQD's net revenues (i.e., net of supply costs) derive

5   from Operating Expenses. As a result, HQD's earnings are more sensitive to percentage

6   changes in Operating Expenses.

7   **Q.   How might the recent earnings experience of HQD and HQT affect the design of**

8   **an ESM?**

9   A.   First, it is fair to say that earnings surpluses draw a lot more attention than earnings

10   shortfalls as long as earnings are not so low as to threaten the financial health of the

11   utility. The pattern of surplus earnings by HQD and HQT in recent years explains why

12   earnings variances have drawn the attention of the Régie and why customers are

13   interested in having the ability to share in these earnings variances. However, it is also

14   essential that the ESM continues to promote efficiency gains that will benefit customers,

15   HQD and HQT both in the near term and into the future.

16   **Q.   What is the potential impact of the current rate filing practice on the design of an**

17   **ESM for HQD and HQT?**

18   A.   Annual rate filings based on cost-of-service principles act as a disincentive to pursue

19   efficiency gains, although the evidence indicates that HQD and HQT have each been

20   able to reduce Operating Expenses below the level that has been used to calculate rates

21   over the past few years.

1   For purposes of designing an ESM in this proceeding, this implies that an understanding that

2   the ESM will remain in place for a number of years, even if rates are to be reset more

3   frequently will promote the pursuit of efficiency gains. It also implies that a meaningful

4   deadband is appropriate to provide an incentive for HQD and HQT to pursue these efficiency

5   gains.

6   Further, to the extent that incremental efficiency gains may be difficult to achieve, it also

7   suggests that a more balanced sharing mechanism (i.e., downside as well as upside

8   sharing) may be appropriate.

9   Finally, to the extent possible, ESM should be implemented in a way that does not

10   increase the regulatory burden for the Régie, HQD and HQT, and the interested parties.

11   **Q.   Do HQD's and HQT's deferral and variance accounts have any potential impact**

12   **on the design of the ESM and the sharing of earnings?**

13   A.   In recent years, the existing deferral and variance accounts were considered in the

14   calculation of earnings for both HQD and HQT. The addition of the pension cost

15   variance account in 2011 addressed the impact of difficult to project pension costs on the

16   earnings of HQD and HQT. However, I understand that neither HQD nor HQT is

17   proposing any change in these accounts in this proceeding. For this reason, I believe that

18   it is reasonable to rely on the recent earnings experience and the other factors that I have

19   cited (i.e., concern for earnings variations and efficiency considerations) when designing

20   an ESM in this proceeding.

1 **Q.** **Please summarize your testimony with respect to the impact of HQD and HQT**

2 **circumstances on the design of an ESM.**

3 A. The design of an ESM will need to reflect a balancing between the concern over earnings

4 surpluses experienced by HQD and HQT in recent years and the need to mitigate the

5 potential disincentives of an ESM for the pursuit of efficiency gains, a concern that is

6 accentuated by the fact that rates may only be in effect for one year. It is also reasonable

7 to incorporate an expected greater variation in earnings and ROE for HQD than HQT in

8 the design of the ESM.

9 **IV. PROPOSED EARNINGS SHARING MECHANISMS**

10 **Q.** **Are there any other factors that you believe are appropriate in designing ESMs for**

11 **HQD and HQT?**

12 A. As this is the initial ESM for HQD and HQT, I would recommend that a relatively

13 simple approach be adopted. This will provide experience with ESMs for all

14 stakeholders.

15 For the same reason, I recommend that the ESMs for HQD and HQT at least be of

16 similar structure, if not identical.

17 **Q.** **Please present your recommendations.**

18 A. First, I recommend that the ESMs for HQD and HQT be based on an authorized ROE

19 that is established at the appropriate level, as recommended in the joint testimony of

20 Mr. Coyne and Mr. Trogonoski.

21 Second, I recommend that HQD and HQT implement ESMs that are asymmetric by

22 providing for customer sharing on the upside, while HQD and HQT absorb any

1 downside risk. Although there is a potential that earnings will be more difficult to

2 achieve in the coming years than they have been over the past few years, this element of

3 my recommendation is intended to respond to the concerns raised by the recent pattern

4 of surplus earnings.

5 Third, I recommend that the ESMs for HQD and HQT each have a deadband before

6 upside sharing begins. Specifically, I recommend a +100 basis point deadband for HQD

7 and a +50 basis point deadband for HQT. The wider deadband for HQD reflects the

8 greater sensitivity of HQD's earnings to variations in revenues and Operating Expenses.

9 I believe that a meaningful upside deadband is appropriate in recognition that HQD and

10 HQT will be absorbing all of the downside risk. At the same time, my proposed

11 deadband is responsive to the earnings variability concerns expressed by the Régie and

12 interested parties while maintaining an adequate incentive to achieve efficiency gains that

13 will benefit customers in the future.

14 Finally, I recommend a common 50/50 sharing for both HQD and HQT as an

15 appropriate balancing of interests between customers and HQD and HQT. It is

16 responsive to the concerns that have been expressed by the Régie and maintains an

17 adequate incentive to achieve efficiency gains. I do not, however, recommend a more

18 complicated structure for the ESM at this time, consistent with my recommendation that

19 it is appropriate to begin with a relatively simple mechanism for both HQD and HQT.

1   **Q.**   **Have you considered whether it is appropriate to implement a more formalized**

2   **set of operational performance measures or "service quality plan" to accompany**

3   **the implementation of an ESM for HQD and HQT?**

4   A.   Operational performance measures serve a critical role for utilities in identifying potential

5   areas of improvement and in driving internal performance. They also serve as indicators

6   to regulators that there may be an area of the utility business that merits further scrutiny.

7   However, taking the next step by formally linking performance to financial results by

8   including a set of penalties and rewards requires careful consideration. Establishing such

9   a linkage is not a trivial exercise. They require agreement on the performance to be

10   measured, development of a penalty and/or reward structure and reporting requirements,

11   and the specific measurement calculation to be applied to each measure. For new

12   measures, the utility will have to implement new business and information processes to

13   capture the necessary data, at a cost to ratepayers. Establishing the proper benchmark is

14   perhaps the most challenging aspect as it often depends on utility-specific circumstances.

15   Establishing a benchmark that is too rigorous may unfairly penalize the utility or provide

16   an incentive to over-invest to meet the benchmark and then recover these costs from

17   customers.

18   This effort may be justified for multi-year rate plans where the regulator may not have an

19   opportunity to raise service quality concerns in an annual rate case, as is possible with

20   respect to HQD and HQT.

21   **Q.**   **Please summarize your conclusions and recommendations.**

22   A.   I have attempted to describe both the general considerations that influence the design of

23   an ESM as well as specific HQD and HQT circumstances, in order to address earnings
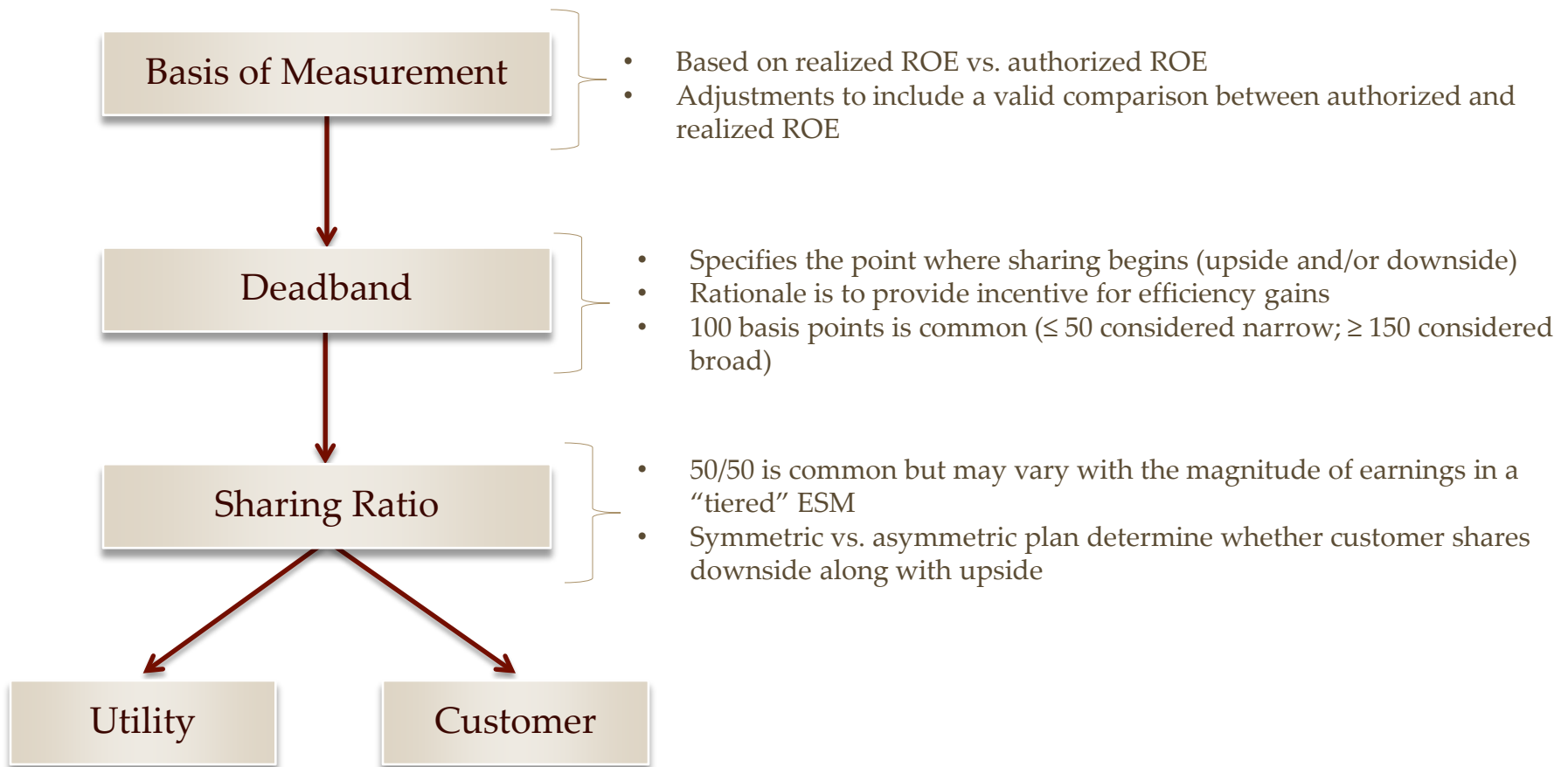
1   variability and do so in a manner that fairly balances the interests of customers and HQD

2   and HQT. By providing for customer sharing on the upside only, the ESM increases the

3   benefit to customers.

4   My recommendations reflect all of these considerations, while maintaining an adequate

5   incentive to continue to pursue efficiency gains that will benefit customers in the future.

6   **Q.   Does this conclude your prepared direct testimony?**

7   A.   Yes, it does.

ESM Mechanics

Basis of Measurement	• Based on realized ROE vs. authorized ROE • Adjustments to include a valid comparison between authorized and realized ROE
Deadband	• Specifies the point where sharing begins (upside and/or downside) • Rationale is to provide incentive for efficiency gains • 100 basis points is common (≤ 50 considered narrow; ≥ 150 considered broad)
Sharing Ratio	• 50/50 is common but may vary with the magnitude of earnings in a "tiered" ESM • Symmetric vs. asymmetric plan determine whether customer shares downside along with upside

Utility   **Customer**

1

ESM Example: 50-50 Sharing above a Deadband

Plan Parameters

- $1bn rate base
- 50/50 capital structure
- 10% after tax authorized ROE
- 100 basis point deadband
- 50/50 sharing ratio
- $80 million in actual earnings

Earnings ($Millions)

12.5 — Customer

25

12.5 — Utility

5 — Deadband to utility

50

Authorized   Actual