



November 24, 2005

Sent via e-mail

Interested Parties
AESO 2003 Deferral Account Reconciliation

Dear Stakeholder:

Re: AESO 2004 Deferral Account Cut-Off Date and Post Cut-Off Adjustment Process

Attached is the final discussion paper in the consultation process relating to the AESO's 2004 deferral account reconciliation. The AESO invites you to provide comments on the proposals in the paper by December 8, 2005, using the attached comment form.

In the previous discussion paper distributed by the AESO on July 22, 2005, the AESO proposed to include a second reconciliation of the 2003 deferral account when filing its 2004 deferral account reconciliation application. Parties supported this approach, and the AESO is preparing its application accordingly and expects to file it in mid-December 2005.

The AESO notes it had previously stated the 2004 application would be filed in mid-November. The delay in filing results from several factors, including the reconciliations for two deferral account years requiring more time than hoped and the AESO's resources being focused on responding to directions in Decision 2005-096 during much of the fall of 2005.

The AESO also believes it is important to conclude consultation on certain aspects of the AESO's proposals for the deferral account reconciliation process, and therefore seeks stakeholder comments on the discussion paper before finalizing the 2004 account application.

The AESO apologizes for the delay in completing this consultation and in filing the 2004 deferral account reconciliation application. If you have any questions on this matter, please contact me at (403) 539-2465 or john.martin@aeso.ca.

Yours truly,

[original signed by]

John Martin
Manager, Regulatory

Attachments

**AESO 2004 Deferral Account Cut-Off Date and Post Cut-Off Adjustment Process
Discussion Paper**
November 24, 2005

Background

On August 22, 2005, the Alberta Electric System Operator (AESO) distributed and posted a letter and comment matrix regarding the AESO's 2004 deferral account reconciliation process. The AESO has since had individual discussions with AltaGas, EnCana, and TransCanada regarding their comments included in the matrix. The discussions have led the AESO to reconsider the deferral account reconciliation process, and to change certain aspects of the AESO's proposal as most recently circulated by the AESO on July 14, 2005 (with corrections on August 22, 2005).

As some of these changes affect aspects which other participants have previously supported, the AESO considers it appropriate to seek additional comments from participants before finalizing the reconciliation process for the 2004 deferral account. Stakeholders are invited to respond to the proposals in this discussion paper using the attached comment form by December 8, 2005. The AESO will then advise participants of its final position by December 15, 2005.

For the reference of stakeholders, the AESO summarizes the following conclusions which have been previously reached for the 2004 retrospective deferral account reconciliation process:

1. The cut-off date for the deferral account reconciliation will be August 31st of the following year.
2. The filing date for the deferral account reconciliation application will be mid-November [now mid-December], or earlier, if possible.
3. For AESO costs, post cut-off adjustments will be considered material if the cumulative adjustments for a single cost component or the cumulative adjustments for total costs exceed $\pm 1\%$ of the AESO's annual revenue requirement.
4. For AESO revenue, please see the following discussion.
5. For material adjustments occurring after the cut-off date, please see the following discussion.
6. For material adjustments occurring after the next year's cut-off date, please see the following discussion.
7. If a material adjustment occurs after the cut-off date, all non-material adjustments after the cut-off date will be included in the re-reconciliation of the deferral account in the next year's deferral account reconciliation application.
8. If no material adjustments occur after the cut-off date, all non-material adjustments after the cut-off date will be allocated to customers by production month based on the most

recent EUB-approved allocators for the deferral account, in the next year's deferral account reconciliation application.

9. All non-material adjustments occurring after the next year's cut-off date will be allocated to customers by production month based on the most recent EUB-approved allocators for the deferral account, in the next deferral account reconciliation application filed by the AESO.
10. The \$24.2 million adjustment relating to 2001-2003 losses will be included in the 2003 re-reconciliation to be filed with the AESO's 2004 deferral account reconciliation application.

The AESO notes that the above conclusions were developed with respect to the reconciliation process for the AESO's 2003 and 2004 deferral accounts. The AESO does not propose to re-reconcile its 2000-2002 deferral accounts, and will use the allocators approved in EUB Decision 2003-099 to allocate to customers any adjustments related to those years. Please refer to additional comments later in this discussion paper.

Additional background is available on the AESO's website at www.aeso.ca by following the path Tariff ► Current Consultations ► 2004 Deferral Account Reconciliation Process.

Materiality Threshold for AESO Revenue Adjustment

The discussion paper distributed on July 14, 2005 explained that the materiality of a revenue adjustment depended on two factors:

- (a) the size of the deferral account balance being adjusted, and
- (b) the share of total revenue represented by the customer's revenue.

More detailed examination of the calculations underlying the deferral account allocation process reveals that the materiality of a revenue adjustment also depends on a third factor:

- (c) the size of the total revenue over which the deferral account will be allocated.

This is illustrated by the fundamental deferral account (DA) allocation formula:

$$\text{DA Allocation} = \text{DA Balance} \times \frac{\text{Customer Revenue}}{\text{Total Revenue}}$$

This may also be expressed as:

$$\text{DA Allocation} = \text{DA Balance} \times \text{Customer Share of Total Revenue}$$

However, for a customer who receives a revenue adjustment, the adjustment affects all three of the deferral account balance, the customer revenue, and the total revenue when determining the adjusted allocation to that customer:

$$\text{Adjusted Allocation} = (\text{DA Balance} + \text{Adjustment}) \times \frac{\text{Customer Revenue} + \text{Adjustment}}{\text{Total Revenue} + \text{Adjustment}}$$

Although the customer share of total revenue allows the calculation of the original deferral account allocation, both the customer revenue and the total revenue must be known when calculating the impact of a revenue adjustment on the deferral account allocation. The determination of a materiality threshold for a revenue adjustment therefore become more complex, and perhaps cannot be satisfied with a single number that can be applied to any revenue component in any year.

The AESO therefore analyzed in more detail the effect of a revenue adjustment on deferral account allocation. This analysis is attached as an appendix to this discussion paper. The analysis concluded that different approaches, with different levels of complexity and accuracy, can be used to establish materiality thresholds for revenue adjustments, based on the total revenue and deferral account balance for each revenue component. Based on this analysis, the AESO proposes to use an adjusted simplified formula which provides a conservative estimate of a materiality threshold. Where a change in deferral account allocation of \$50,000 or greater is considered material, the adjusted simplified formula (equation 7 in the appendix) is:

$$\text{Materiality Threshold} = \frac{50,000 \times \text{Total Revenue}}{2 \times \text{Deferral Account Balance}}$$

Based on the above discussion the AESO therefore proposes the following materiality threshold for AESO revenue adjustments:

4. For AESO revenue, post cut-off adjustments would be considered material if the cumulative adjustments for a single revenue component (interconnection, operating reserve, other system support, or transmission losses) for a single customer or the cumulative adjustments for total revenue for a single customer exceed:

$$\frac{50,000 \times \text{AESO Revenue (by Revenue Component or in Total)}}{2 \times \text{Deferral Account Balance (by Revenue Component or in Total)}}$$

During discussions, some participants suggested a higher materiality threshold might be appropriate for distribution utilities compared to AESO direct connect customers. The AESO proposes that the same materiality threshold apply to all customers, as distribution utilities serve some transmission-connected customers who receive a flowthrough of the AESO's charges including deferral account allocations. Applying a higher materiality threshold for distribution utilities might result in different treatment for such transmission-connected DISCO customers compared to AESO direct connect customers which, in the AESO's opinion, would be inappropriate.

The AESO proposes the above formula be used because of its simple and transparent calculation. The resulting materiality threshold is generally conservative compared to more exact (but more complex) approaches. The formula may also be readily evaluated by a customer using information posted by the AESO on its deferral account balances together with the customer's own transmission charges during the year. The AESO considers that the simplicity and transparency of the formula, combined with its conservative results, balance any lack of accuracy it may exhibit.

The AESO’s proposal is numbered and presented as above in the stakeholder comment form included with this discussion paper, where stakeholders can indicate support or opposition and provide additional comments. However, the AESO recognizes that other participants may support a more exact approach, and offers the following alternative proposals for comment.

- 4-A. For AESO revenue, post cut-off adjustments would be considered material if the cumulative adjustments for a single revenue component (interconnection, operating reserve, other system support, or transmission losses) for a single customer or the cumulative adjustments for total revenue for a single customer exceed the threshold provided by equation 13 in the appendix, namely:

$$\frac{-(D + 0.0125R) \pm \sqrt{(D + 0.0125R)^2 + 200,000R}}{2}$$

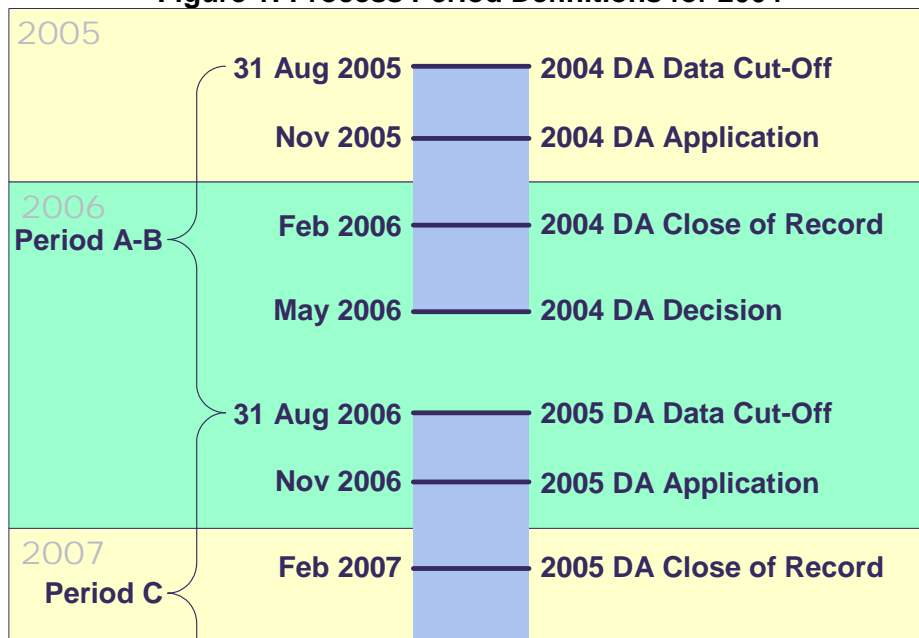
- 4-B. For AESO revenue, post cut-off adjustments would be considered material if the cumulative adjustments for a single revenue component (interconnection, operating reserve, other system support, or transmission losses) for a single customer or the cumulative adjustments for total revenue for a single customer exceed the exact threshold provided through trial-and-error solution of equation 15 in the appendix, namely:

$$50,000 = \left[(D + a) \times \frac{(0.0125R + a)}{(R + a)} \right] - 0.0125D$$

Treatment of Material Adjustments Occurring After the Cut-Off Date

The proposed deferral account reconciliation process periods are illustrated in Figure 1, for the 2004 deferral account process.

Figure 1: Process Period Definitions for 2004



Note: DA means Deferral Account

Discussions have considered multiple filings of deferral account reconciliations with respect to a single year:

- (a) the first annual reconciliation in November of the following year, which would include the “principal” amounts of the deferral account and adjustments as determined at the August 31 cut-off date;
- (b) a second annual reconciliation in November of the second year following, which would add any adjustments that have occurred between the cut-off dates for the first and second reconciliations;
- (c) third and later annual reconciliations in third and later years, which would add any adjustments that were not included in a prior reconciliation and that occurred before the cut-off date for the reconciliation; and
- (d) intermediate reconciliations between these annual reconciliations, which would add any material adjustments that were not included in an annual reconciliation filing and which would only be filed if the EUB had not yet issued its decision on the annual reconciliation.

Stakeholders have reiterated to the AESO that the treatment of a material deferral account adjustment should not depend on when that adjustment happens. This principle leads to the conclusion that material adjustments must always be subject to full reconciliation. The AESO therefore proposes that full annual reconciliations be filed at least twice — the first reconciliation in the year following the deferral account, and the second reconciliation in the next year following. The AESO further proposes that these first and second reconciliations include all deferral account adjustments, both material and non-material, and that these reconciliations be performed regardless of whether a material adjustment has occurred or not. The AESO believes this will address the treatment of the majority of material adjustments that occur after the data cut-off date for the first reconciliation.

The AESO also believes that the second reconciliation makes it unnecessary to file any intermediate reconciliations after the first reconciliation (but before the EUB issues its decision) for the purpose of including material adjustments which happen after the cut-off date. The AESO does not expect the first reconciliation of deferral account amounts for 2004 to be approved until about May 2006. Adding intermediate reconciliations into the process would delay final approval beyond that date. Furthermore, the full deferral account reconciliation (of both “principal” amounts and adjustments up to the cut-off date) would be delayed, whereas the additional adjustments would likely be of far less magnitude than the amounts included in the first reconciliation itself.

EnCana suggested the AESO’s concern about intermediate reconciliation filings could be mitigated by limiting the process to one such intermediate reconciliation only, which would be filed only if a material adjustment occurred after the August 31 cut-off date and before December 31. The AESO remains unconvinced that such an intermediate reconciliation would be appropriate. An intermediate reconciliation to include adjustments to December 31, 2005, would not be able to be completed until March 2006, with the resulting deferral account decision likely delayed to August 2006. The AESO does not consider such a delay to be appropriate given that the adjustments will be included in the second reconciliation and treated in exactly the same manner in the November 2006 reconciliation application. The AESO suggests that if it is

important to include adjustments to December 31, then consideration should be given to making December 31 the data cut-off date for the first reconciliation. (Please note that the AESO does not support a December 31 data cut-off date because it would further delay the first reconciliation, and would also result in the first reconciliation being prepared while the AESO is focused on year-end financial activities.)

The AESO proposes that the deferral account reconciliation schedule therefore be as provided in the August 22 correction to the AESO’s July 14, 2005 discussion paper, as summarized in Figure 2 below.

Figure 2: Example Schedule of Deferral Account Reconciliation Filings

Date of Application	2003 Deferral Account Filings	2004 Deferral Account Filings	2005 Deferral Account Filings
November 2005	Second reconciliation	First reconciliation	—
November 2006	See discussion in next section	Second reconciliation	First reconciliation
November 2007		Second reconciliation	

The AESO therefore continues its proposal as stated in the July 14 discussion paper.

5. Material adjustments occurring in Period A-B will be included in a second reconciliation of the deferral account in the next year’s deferral account reconciliation application.

Period A-B is the period after the cut-off date for the first reconciliation up to the cut-off date for the second reconciliation, as illustrated in Figure 1.

Treatment of Material Adjustments Occurring After the Next Year’s Cut-Off Date

In the previous section the AESO commented on the principle that the treatment of a material deferral account adjustment should not depend on when that adjustment happens, which leads to the conclusion that material adjustments must always be subject to full reconciliation.

Some stakeholders have stated, and the AESO generally agrees, that this principle is not limited to the period before the next year’s cut-off date. The AESO therefore examined the possibility of continuing annual re-reconciliations beyond the second reconciliation illustrated in Figure 2.

The steps involved in a retrospective deferral account reconciliation were presented in the AESO’s July 14, 2005, discussion paper on a 2006 prospective deferral account rider methodology (available on the AESO’s website at www.aeso.ca by following the path Tariff ► Current Consultations ► 2006 Prospective Deferral Account Rider). The most complex and resource-intensive activities in the process is the assignment of costs and, especially, revenue to the “production months” to which they relate and the determination of the deferral account balance and customer revenue by rate component, for each production month in the calendar year. The AESO has therefore investigated automating this process such that queries of the AESO’s accounting and billing systems can populate a database with all cost and revenue

amounts by customer and by production month. The allocation of the deferral account balance to customers and the determination of amounts to be refunded to or collected from customers could then be readily performed, either through a further automated process or manually as is done in the current process.

The AESO expects that such an automated process could be developed for on the order of \$50,000-100,000 and be ready for use for the 2005 deferral account reconciliation in the fall of 2006. With such an automated process, the AESO would agree to annual retrospective deferral account reconciliations beyond the second reconciliation discussed above, for material adjustments to deferral account balances. The AESO suggests, however, that annual reconciliations should not continue indefinitely, but at this point does not have a basis for setting a maximum number of annual reconciliations. The AESO proposes that, initially, a third reconciliation be completed where material adjustments occur, and a further review of the process be conducted with customer consultation before completing additional reconciliations.

The AESO therefore proposes that Figure 2 be extended as shown in Figure 3.

Figure 3: Extended Schedule of Deferral Account Reconciliation Filings

Date of Application	2003 Deferral Account Filings	2004 Deferral Account Filings	2005 Deferral Account Filings
November 2005	Second reconciliation	First reconciliation	—
November 2006	Third reconciliation if material adjustments	Second reconciliation	First reconciliation
November 2007	Review before further reconciliations	Third reconciliation if material adjustments	Second reconciliation

The AESO notes that if no material adjustments occur after the data cut-off date for the second reconciliation, a third reconciliation would not be performed. Instead, all non-material adjustments would be accumulated in a “13th month” and allocated to customers using the allocators most recently approved by the EUB for the relevant deferral account year. This approach recognizes that even with an automated process, a full annual reconciliation will continue to require resources to complete.

The AESO also notes that it does not propose to complete any further re-reconciliations for the 2000-2002 deferral accounts. The current consultation process resulted from concerns raised during the AESO’s 2003 deferral account reconciliation process, and the AESO believes they should not be retroactively applied to years before 2003. As well, changes to the AESO’s information systems make it more difficult to perform re-reconciliations for those periods. The AESO proposes that any adjustments relating to 2000-2002 be allocated to customers using the final allocators approved by the EUB for each of those years. The AESO notes that annual allocators were approved for 2000 and 2001 deferral accounts, while monthly allocators were approved for 2002. Therefore all adjustments related to those periods will be assigned to appropriate production years (for 2000 and 2001) and production months (for 2002) and allocated using the relevant allocators approved in Decision 2003-099.

The AESO therefore proposes the following treatment for material adjustments occurring after the cut-off date for the second reconciliation.

6. Material adjustments occurring after a data cut-off date will be included in a subsequent annual reconciliation of the deferral account, for up to a total of three annual reconciliations. After the third reconciliation this process will be reviewed with stakeholders to determine if further annual reconciliations should be completed.

To illustrate the above process, Figure 4 summarizes the treatment of post cut-off material and non-material adjustments relating to the 2004 deferral account year.

Figure 4: Treatment of Post Cut-Off Adjustments Relating to 2004

Period	Treatment of Material Adjustments	Treatment of Non-Material Adjustments
Jan 2004 – Aug 2005	All adjustments included in first reconciliation in Nov 2005 deferral account reconciliation application	
Sep 2005 – Aug 2006	All adjustments included in second reconciliation in Nov 2006 deferral account reconciliation application	
Sep 2006 – Aug 2007	Material adjustments included in third reconciliation in Nov 2007 deferral account reconciliation application	If material adjustments occurred, non-material adjustments included in third reconciliation in Nov 2007
		If no material adjustment occurred, non-material adjustments allocated based on 2004 monthly allocators approved in Nov 2006 application
Sep 2007 – Aug 2008	Stakeholder consultation and review to assess need and process for fourth and subsequent reconciliations	

Treatment of Small Amounts to be Refunded or Collected

Although the AESO supports the above process, it expects that the amount of deferral account allocation changes for some customers in the second, third, or subsequent annual reconciliations could be quite small. Over the three-year reconciliation period, it is also likely that some customers will terminate their services. The AESO notes that retrospective adjustments due to deferral account reconciliation are to apply to the customer for the service during the year to which the deferral account pertains, unless the customer assigned its contract pursuant to Section 23.5 of the AESO’s current terms and conditions of service. As the number of annual reconciliations increases, the likelihood also increases that a service will have changed ownership without the contract being assigned. In such instances, the AESO considers it inefficient to pursue the previous customer for small retrospective deferral account adjustment amounts.

The AESO therefore proposes that it neither refund nor collect retrospective deferral account adjustment amounts of less than \$1,000 where the original customer is no longer the customer of the AESO and the service contract was not assigned to a current customer. Adjustments of less than \$1,000, where the original customer is no longer the customer of the AESO and the service

contract was not assigned to a current customer, will be treated as an adjustment to AESO transmission costs in the current accounting year.

11. An amount of less than \$1,000 arising from deferral account adjustments will be neither refunded to nor collected from a customer where the original customer is no longer the customer of the AESO and the service contract was not assigned to a current customer, but will instead be treated as an adjustment to AESO transmission costs.

The AESO notes that the \$1,000 limit accords with the rebilling charge approved in Article 18.1 of the AESO's current terms and conditions of service.

Next Steps

The AESO apologizes for the delay in providing this discussion paper to stakeholders, but hopes that the additional discussion and information included with it are helpful. The AESO would appreciate stakeholder feedback on the proposals and alternatives discussed in this paper using the attached comment form. Stakeholders are requested to return all comments to the AESO by **December 8, 2005**. The AESO will post all comments on its website and distribute a comment matrix with AESO comments by December 15, 2005.

Comments are to be provided to John Martin at john.martin@aeso.ca. If you have questions on the 2004 deferral account process matters discussed in this paper or on the consultation process, please contact John Martin at (403) 539-2465 in Calgary or by e-mail at john.martin@aeso.ca.

The AESO expects to file its 2004 deferral account reconciliation application (which will include the first reconciliation of the 2004 deferral account, the second reconciliation of the 2003 deferral account, and allocation of adjustments relating to prior years' deferral accounts using the final allocators approved by the EUB for each of those years) in mid-December 2005.

All information on the deferral account cut-off date and post cut-off adjustment process is available on the AESO's website by following the path [Tariff ► Current Consultations ► 2004 Deferral Account Reconciliation Process](#).

Appendix: Revenue Adjustment Materiality Threshold Formulas

The effect of a revenue adjustment for a customer on the allocation of a deferral account balance to that customer depends on the total revenue, the deferral account balance, the initial customer revenue, and the adjustment to the initial customer revenue. These amounts may be represented by the following symbols:

	Before Adjustment		After Revenue Adjustment “ <i>a</i> ”	
	Total	Customer	Total	Customer
Revenue	<i>R</i>	<i>r</i>	<i>R + a</i>	<i>r + a</i>
Deferral Account	<i>D</i>	<i>d</i>	<i>D + a</i>	<i>d'</i>

The initial allocation of the deferral account to the customer is:

$$d = D \times \frac{r}{R} = \frac{Dr}{R} \quad (\text{eq. 1})$$

After an adjustment “*a*” that affects the revenue of the customer, the reallocation of the deferral account to the customer is:

$$d' = (D + a) \times \frac{(r + a)}{(R + a)} \quad (\text{eq. 2})$$

Simplified Materiality Threshold Formula

We are trying to determine a minimum threshold for the adjustment “*a*” which would result in a material change to the deferral account allocation. We can make the simplifying assumption that “*a*” is small compared to both the total revenue “*R*” and the total deferral account balance “*D*”.

Therefore:

$$d' \approx D \times \frac{(r + a)}{R} = \frac{Dr}{R} + \frac{Da}{R} \quad (\text{eq. 3})$$

The change to the deferral account allocation “ Δd ” is the difference between the deferral account allocations “*d*” before the adjustment and “*d'*” after the adjustment.

$$\Delta d = d' - d \approx \left(\frac{Dr}{R} + \frac{Da}{R} \right) - \frac{Dr}{R} = \frac{Da}{R} \quad (\text{eq. 4})$$

Solving for the adjustment “*a*” results in:

$$a \approx \frac{\Delta d \times R}{D} \quad (\text{eq. 5})$$

In general, participants in the 2004 deferral account process consultation agreed that a change in deferral account allocation of \$50,000 or greater should be considered material. Therefore:

$$a \approx \frac{50,000 \times R}{D} \quad (\text{eq. 6})$$

Equation 6 could therefore be used to estimate the level of revenue adjustment that would result in a change in deferral account allocation of \$50,000 or greater, and accordingly establish the revenue adjustment materiality threshold.

Adjusted Simplified Materiality Threshold Formula

Equation 6 was developed using some simplifying assumptions (in equation 3) and provides only an estimate of revenue adjustment materiality. To assess the accuracy of the estimates provided by equation 6, the AESO reviewed the effect of revenue adjustments on deferral account allocations to customers for the preliminary revenue and deferral account balances for 2003 and 2004.

In general, equation 6 provides a good estimate (within about $\pm 10\%$) of the magnitude of adjustment which would result in a \$50,000 change in deferral account allocation.

However, in some cases the deferral account balance is small and the simplifying assumption in equation 3 (that the adjustment “ a ” is small compared to the total deferral account balance “ D ”) is inappropriate. In such a case equation 6 can overestimate the threshold level of adjustment by as much as 100%. The AESO therefore suggests equation 6 be modified by dividing by 2, which results in a conservative estimate of the threshold level of adjustment for the preliminary revenue and deferral account balances for 2003 and 2004:

$$a \approx \frac{50,000 \times R}{2 \times D} \quad (\text{eq. 7})$$

More Complex Materiality Threshold Formula

If assuming that the adjustment “ a ” is small compared to the total deferral account balance “ D ” results in an unacceptable range of error, it is possible to limit the simplifying assumption to “ a ” being small compared only to total revenue “ R ”. Therefore equation 2 becomes:

$$d' \approx (D + a) \times \frac{(r + a)}{R} = \frac{Dr}{R} + \frac{(D + r)a}{R} + \frac{a^2}{R} \quad (\text{eq. 8})$$

As before, the change to the deferral account allocation “ Δd ” is the difference between the deferral account allocations “ d' ” before the adjustment and “ d ” after the adjustment.

$$\Delta d = d' - d \approx \left(\frac{Dr}{R} + \frac{(D + r)a}{R} + \frac{a^2}{R} \right) - \frac{Dr}{R} = \frac{(D + r)a}{R} + \frac{a^2}{R} \quad (\text{eq. 9})$$

Equation 9 may be rearranged into standard algebraic form:

$$a^2 + (D + r)a - R\Delta d \approx 0 \quad (\text{eq. 10})$$

Equation 10 may then be solved for the adjustment “ a ” using the quadratic formula:

$$a \approx \frac{-(D + r) \pm \sqrt{(D + r)^2 + 4R\Delta d}}{2} \quad (\text{eq. 11})$$

Equation 11 retains the individual customer revenue “ r ” within the formula, and therefore results in a different threshold level of adjustment for every customer of the AESO. However, the *lowest*

threshold level of adjustment would arise from the customer with the *highest* revenue. The AESO's highest revenue from a single direct connect customer represents about 1.25% of the AESO's total revenue, which may be substituted into equation 11:

$$a \approx \frac{-(D + 0.0125R) \pm \sqrt{(D + 0.0125R)^2 + 4R\Delta d}}{2} \quad (\text{eq. 12})$$

Finally, a change in deferral account allocation of \$50,000 would be included in the formula as follows:

$$a \approx \frac{-(D + 0.0125R) \pm \sqrt{(D + 0.0125R)^2 + 200,000R}}{2} \quad (\text{eq. 13})$$

Equation 13 provides a good estimate (within about $\pm 7\%$) of the magnitude of revenue adjustment which would result in a \$50,000 change in deferral account allocation, for the preliminary revenue and deferral account balances for 2003 and 2004.

Exact Materiality Threshold Through Trial and Error

It is possible to determine the threshold level of adjustment through trial and error using equations 1 and 2. Again, the lowest level would arise from the customer with the highest revenue, which is about 1.25% of total revenue. The threshold level of adjustment would be determined for a change in deferral account allocation of \$50,000 by substituting various values into the formula:

$$\Delta d = d' - d = \left[(D + a) \times \frac{(r + a)}{(R + a)} \right] - \frac{Dr}{R} \quad (\text{eq. 14})$$

$$50,000 = \left[(D + a) \times \frac{(0.0125R + a)}{(R + a)} \right] - 0.0125D \quad (\text{eq. 15})$$

The AESO notes that determining the threshold level of adjustment through trial and error using equation 15 can be readily accomplished using the "Goal Seek" feature available in Microsoft Excel by clicking **Goal Seek...** on the **Tools** menu.

The AESO also recommends that equations 12 through 15 be periodically reviewed and updated, if necessary, to reflect any change to the single largest direct connect customer's revenue representing about 1.25% of the AESO's total revenue.

Results

The results of using the simplified, adjusted simplified, and more complex formulas and the exact trial and error method for each of the 2003 and 2004 revenue categories for Rider C is provided in Figure A.

Figure A: Revenue Adjustment Thresholds From Different Estimation Methods

Revenue Category	Total Revenue	Deferral Account Balance	Simplified Formula (Eq. 6)	Adjusted Simplified Formula (Eq. 7)	More Complex Formula (Eq. 13)	Exact Trial and Error Method (Eq. 15)
Materiality Threshold for Adjustment						
2003	Preliminary					
Interconnection Revenue	\$393,551,206	\$7,761,280	\$2,535,350	\$1,267,675	\$1,397,714	\$1,411,108
Operating Reserve	\$237,899,905	\$62,328,166	\$190,845	\$95,422	\$181,649	\$183,971
Other System Support	\$2,133,217	(\$466,971)	\$228,410	\$114,205	\$173,710	\$164,384
Losses	\$215,320,640	\$74,389,773	\$144,725	\$72,362	\$139,419	\$141,208
Total	\$848,904,968	\$144,012,248	\$294,734	\$147,367	\$274,021	\$277,328
2004	Preliminary					
Interconnection Revenue	\$380,994,990	(\$44,839,695)	\$424,841	\$212,421	\$469,818	\$475,738
Operating Reserve	\$236,248,579	\$115,300,173	\$102,449	\$51,225	\$99,807	\$101,079
Other System Support	\$2,165,618	(\$227,845)	\$475,240	\$237,620	\$243,645	\$227,673
Losses	\$138,418,004	(\$3,779,084)	\$1,831,370	\$915,685	\$1,798,752	\$1,797,873
Total	\$757,827,191	\$66,453,549	\$570,193	\$285,097	\$495,816	\$501,558
Estimate as Percentage of Exact Adjustment						
2003						
Interconnection Revenue			180%	90%	99%	100%
Operating Reserve			104%	52%	99%	100%
Other System Support			139%	69%	106%	100%
Losses			102%	51%	99%	100%
Total			106%	53%	99%	100%
2004						
Interconnection Revenue			89%	45%	99%	100%
Operating Reserve			101%	51%	99%	100%
Other System Support			209%	104%	107%	100%
Losses			102%	51%	100%	100%
Total			114%	57%	99%	100%