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EXHIBIT NO. _____

BEFORE
THE PUBLIC UTILITIES COMMISSION OF OHIO

In the Matter of the 2009 Annual Filing)
of Columbus Southern Power Company)
And Ohio Power Company Required by) Case No. 10- 1261-EL-UNC
Rule 4901:1-35-10, Ohio Administrative)
Code.)

REBUTTAL TESTIMONY OF
DR. ANIL K. MAKHIJA
ON BEHALF OF
COLUMBUS SOUTHERN POWER COMPANY
AND
OHIO POWER COMPANY

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1 methodology presupposes what kind of firms ought to be a match for CSPCo. I am
2 also concerned about whether his approach produces a reliably large sample of
3 comparable risk firms, which Dr. Woolridge appears to recognize implicitly through
4 his concern for and efforts to modify his results by eliminating or mitigating the
5 impact of "outliers". In addition, the adder that Dr. Woolridge has selected is the
6 result of an arbitrary calculation that has no connection to the comparable risk group
7 to whose mean (or median) ROE it applies. Thus, Dr. Woolridge's approach to
8 developing an adder lacks of objectivity. Moreover, while his methodology is
9 predictable, it is actually too predictable, producing the same result for all electric
10 utilities in Ohio, and for many others across the country.

11 Second, the three criticisms of my methodology that Dr. Woolridge offers are
12 not well made. I address all these issues below.

13
14 **Q. PLEASE FIRST SUMMARIZE DR. WOOLRIDGE'S METHODOLOGY.**

15 A. Dr. Woolridge has utilized a multi-step methodology in his application of the SEET.

16 Broadly, these steps can be grouped under 3 tasks:

17 (1) Formation of the comparable risk group,

18 (2) Adjustment for capital structure differences between the comparable risk group
19 and CSPCo, and

20 (3) Development of the Threshold ROE beyond which the earnings of CSPCo should
21 be considered to be significantly excessive.

22 **Q. DOES DR. WOOLRIDGE CORRECTLY UNDERTAKE (1) THE**
23 **FORMATION OF THE COMPARABLE RISK GROUP? IF NOT, WHY?**

1 A. No. I will describe his procedure and then the problems associated with it.

2
3 Essentially, Dr. Woolridge's procedure for forming the comparable risk group entails
4 (a) first forming a so-called Electric Proxy Group, composed entirely of electric
5 utilities. The Electric Proxy Group consists of 15 electric utilities listed in his Exhibit
6 JRW-1. (b) Then, he estimates the business and financial risks of this Electric Proxy
7 Group, as shown in Exhibit JRW-2, to establish a range of values for business and
8 financial risks. Three measures are used for this purpose: Business risk is measured
9 with Value Line Betas and with Asset Turnover (defined as Revenues/Net Fixed
10 Assets). Financial risk is measured using the Book Equity Ratio. Finally, (c) he
11 forms the comparable risk group, which he calls the Comparable Public Companies
12 by identifying all firms (from the universe of firms available in the full Value Line
13 Database, the Plus-Edition) that have business and financial risks within the ranges
14 from the Electric Proxy Group.

15
16 There are several problems with Dr. Woolridge's procedure. In the very first step,
17 (a), his procedure limits matching the comparable firms to only those that have
18 characteristics of a set of electric utilities. This is contrary to the language and spirit
19 of the SEET, which requires that potential matches include non-utility firms.
20 Moreover, he has already constrained the potential characteristics of the comparable
21 risk group, but he has not yet taken into account any specific measure of CSPCo's
22 business and financial risks. The selection criteria for the Electric Proxy Group, not
23 only ignore targeting the specific business and financial risks of CSPCo, they are so

1 broad that they can fit any number of electric utilities. Not surprisingly, with his
2 restrictive Electric Proxy Group as the starting point, the procedure is hard-wired to
3 produce a comparable group that is overwhelmingly regulated utilities, and is the
4 same comparable group for any number of subject electric utilities. As a result, there
5 are only 2 non-utility firms out of the 45 that form his Comparable Public Companies
6 (96% utilities), although he searches many thousands of firms in the full *Value Line*
7 database. Also, he proposes a scheme that gives us the same Comparable Public
8 Companies group for every Ohio electric utility facing the SEET, and for many others
9 across the country. This should not be the case, as he himself recognizes that the
10 Commission in its Finding and Order in Case No. 09-786-EL-UNC has noted that the
11 comparable risk group should be determined on a “case-by-case basis” (Woolridge
12 Direct, page 5, line 12). The problem here is that Dr. Woolridge prejudged the types
13 of firms that should be of comparable risk for the purposes of the SEET down to just
14 a group of electric utilities.

15
16 Unfortunately, constraining the characteristics of the Comparable Public Companies
17 to those of his Electric Proxy Group also means that Dr. Woolridge rules out other
18 publicly traded firms that would in fact have been better matches for CSPCo. His
19 narrow search may explain the relatively small sample of Comparable Public
20 Companies available to him (45). This also raises questions about whether his
21 approach produces a reliably large sample of comparable risk firms, which Dr.
22 Woolridge appears to recognize implicitly through his concern for and efforts to

1 modify his results by eliminating or mitigating the impact of “outliers” and changing
2 his definition of average from mean to median.

3
4 Dr. Woolridge did not have to form his proxy group without regard to the business
5 and financial risks of CSPCo. After all, for his Comparable Public Companies, he
6 searches the universe of *Value Line* firms with the ranges of capital intensity (an
7 important component of business risk) and of Common Equity Ratio (a measure of
8 financial risk) based on his Electric Proxy Group. Yet, he does not employ these
9 measures available to him in forming the proxy group itself. Consequently, it appears
10 that the proxy group and CSPCo are not well matched by business risk, which the
11 SEET explicitly requires. Other non-electric utility firms could have helped produce
12 a better match, but have been excluded by design.

13
14 The matching problem is also apparent with another measure used by Dr. Woolridge.
15 For the search for Comparable Public Companies, Dr. Woolridge uses a range of beta
16 values based on its variation among the Electric Proxy Group firms. This range of
17 betas is 0.60 to 0.75. In 2009, AEP had a beta of 0.70 according to Dr. Woolridge
18 (his Exhibit JRW-3). I believe that Dr. Woolridge is reporting the year-end value of
19 beta, since the quarterly values of AEP’s *Value Line* betas were 0.75, 0.70, 0.75, and
20 0.70, which averages to 0.73 for the year. The point is that AEP’s beta is quite close
21 to the maximum for his Electric Proxy Group. This is a problem because we expect
22 CSPCo’s beta to be actually higher than that of AEP because it is known that smaller
23 firms have higher betas, other things being similar. This puts CSPCo outside the

1 range used to search for Comparable Public Companies. Apparently, we are
2 searching for the wrong set of comparable firms in Dr. Woolridge's procedure.

3
4 Besides being invoked too late to screen for the right matches of Comparable Public
5 Companies, the business risk measures themselves are not appropriate. Though he
6 refers to it as Asset Turnover, for capital intensity, Dr. Woolridge uses Revenues/Net
7 Fixed Assets. The proper comprehensive measure would entail Total Assets and
8 should be Revenues/Total Assets (just as Dr. Vilbert and I have defined it). Going by
9 his use of year-end betas, it would also appear that he uses the year-end values for
10 Net Fixed Assets, while the more appropriate measure that takes changes into account
11 during the year would be the *average* Net Fixed Assets over 2009. Finally, use of
12 levered betas mixes up business and financial risks, since levered betas reflect the
13 combination of the two. SB 221 explicitly requires consideration of both risks in
14 forming the comparable firms.

15
16 **Q. DOES DR. WOOLRIDGE CORRECTLY (2) ADJUST FOR CAPITAL**
17 **STRUCTURE DIFFERENCES BETWEEN THE COMPARABLE RISK**
18 **GROUP AND CSPCo?**

19 A. There is a methodological problem with the manner in which capital structure is taken
20 into account by Dr. Woolridge. For purposes of capital budgeting for long-term
21 projects, it is common practice to define the relevant capital in terms of long-term
22 financing, adding up long-term debt, preferred equity, and common equity. But, this
23 is not the nature of the problem we are dealing with here. Instead, we are interested

1 in what rate was earned by common equity holders if the comparable firms had the
2 same capital structure as the subject utility. So, we should begin with the total returns
3 for the comparable firms for all capital, including short-term debt. We cannot assume
4 away that the working capital is always such that there is no net short-term debt.
5 Next, after finding the total returns for the comparable firms, we need to determine
6 earned rates to common by re-leveraging at the debt level of the subject utility.
7 Again, short-term debt and its interest costs should be incorporated, but is ignored by
8 Dr. Woolridge. In essence, Dr. Woolridge is taking a familiar approach from the rate-
9 making type of exercise for allowed rates for equity and applying it in a situation
10 where it does not fit.

11
12 **Q. DOES DR. WOOLRIDGE CORRECTLY DEVELOP (3) THE THRESHOLD**
13 **ROE BEYOND WHICH THE EARNINGS FOR CSPCo SHOULD BE**
14 **CONSIDERED TO BE SIGNIFICANTLY EXCESSIVE?**

15 **A.** No. Dr. Woolridge takes several flawed steps in developing the Threshold ROE.

16
17 Once he has identified his group of Comparable Public Companies, Dr. Woolridge
18 focuses only on the median ROE. In doing so, he abandons his prior application of
19 the SEET in the 2008 proceeding in several ways, including his earlier use of the
20 mean ROE. He now argues that SB 221 in Section 4928.143(F) requires the
21 determination of "the return," in the singular, and that the median is better suited for
22 that purpose. Moreover, he claims that the median ROE of the Comparable Public
23 Companies does not suffer from the problems posed by outliers. More

1 fundamentally, he wishes to move away from a statistical definition of “significantly
2 excessive” in arriving at the Threshold ROE, a definition he had previously adopted
3 in the 2008 proceeding.

4
5 His change to the median over the mean is, however, not appropriate under the
6 circumstances. The same sentence in Section 4928.143(F) that contains the words,
7 “the return”, as if referring to the singular, goes on to refer to what was earned by
8 “publicly traded companies,” in the plural. The task before us is to capture the
9 performance of a group of firms with comparable business and financial risks. The
10 median is inadequate for this purpose since it does not respond to the variation in
11 ROEs among the sample group of comparable firms. Yet, each of the firms in the
12 comparable group is purposely there because it matched the subject utility. Besides
13 its contribution to the mean ROE of the comparable group, the deviation from that
14 mean of each included firm also contains information about the comparable firms’
15 ROEs. Thus, while the mean is important, so is the standard deviation of the ROEs of
16 the firms in the comparable group. Consider two alternative comparable groups with
17 the same mean ROE, but one with ROEs tightly distributed close to the mean and the
18 other with ROEs widely dispersed. The mean and standard deviation help better
19 capture the fullness of information regarding the ROEs of the comparables, their
20 distribution of ROEs, which is missed by the median. In the 2008 proceeding, Dr.
21 Woolridge took the standard deviation of the ROEs of the Comparable Public
22 Companies into account.

1
2 Incidentally, the mean ROE for the proxy group, which Dr. Woolridge suggests best
3 captures the characteristics of CSPCo, is 9.74% (based on the revised exhibits).
4 Instead, Dr. Woolridge bases his final recommendations on the original median
5 (9.55%) of the Comparable Public Companies group, which is twice removed from
6 CSPCo. (His revised exhibit includes a median of 9.45% but is not relied upon for
7 his recommendation).

8
9 As for the outliers, there is protection against them through traditional methods such
10 as data screening procedures, forming sufficiently large samples so that a few cases
11 cannot sway results, and then ultimately a judicious treatment of true outliers. Dr.
12 Woolridge's group of Comparable Public Companies was about 45% larger in the
13 2008 proceeding (45 versus 64), and this smaller sample may have motivated him to
14 the use of median ROE. However once medians are used, it is inexplicable why it is
15 then necessary, as Dr. Woolridge does, to worry about eliminating or mitigating the
16 impact of "outliers".

17
18 Once the average ROE of the comparable group has been determined, then the next
19 question is the adder to arrive at the Threshold ROE. Dr. Woolridge proposes an
20 adder of 200 to 400 basis points. The adder that Dr. Woolridge has selected is the
21 result of an arbitrary calculation that has no connection to the comparable risk group
22 to whose mean (or median) ROE it is applied. If a subject firm is risky, we would
23 expect greater variation in the ROEs of its comparable firms. A fixed adder that

1 applies to one and all does not reflect the unique business and financial risks of a
2 subject utility, nor does it follow the "case-by-case basis" directive in the Finding and
3 Order of the Commission. Moreover, even as he gives the Commission discretion in
4 the definition of "significantly excessive," he wants to take away an important tool to
5 assess the consequences of the choice of adder to determine the Threshold ROE. The
6 statistical approach provides the Commission a measure of the probabilities of false
7 positives. In the choice of the acceptable extent of the probability of false positives,
8 the Commission is taking a position on the chances it is willing to take when it
9 declares a firm to have failed the SEET when in fact the firm's excessive earnings are
10 merely the result of normal fluctuations in ROE. This is a powerful message about
11 the importance of the matter, and affects customers in terms of any likely amounts
12 returned to them as well as investors in terms of the risks to which their capital is
13 subjected. In my review of this matter, I have opined that a 95% confidence level
14 provides that reasonable level of likely false positives.

15
16 Besides being arbitrary, using Dr. Woolridge's adder an unreasonably high number of
17 firms will fail the SEET. With the 200 basis points adder, and using his benchmark
18 ROE of 9.58%, his Threshold ROE is 11.58%. That is, almost every fourth firm
19 among his group of Comparable Public Companies earned significantly excessive
20 earnings (Exhibit JRW-4), according to Dr. Woolridge. If applied symmetrically,
21 above and below the mean (below 7.58% and above 11.58%), nearly half the firms in
22 his comparable sample had ROEs that were significantly excessive or deficient under
23 his proposed 200 points adder. These are clearly excessive failure rates in the

1 application of the SEET with dire consequences for attracting capital to Ohio's
2 utilities.

3
4 **Q. DR. WOOLRIDGE HAS MADE THREE CRITICISMS ABOUT YOUR**
5 **METHODOLOGY (WOOLRIDGE DIRECT, PAGE 24, LINE 9 TO PAGE 25,**
6 **LINE 6). WHAT ARE THESE, AND ARE THEY JUSTIFIED?**

7 **A.** Here, I describe his criticisms and why I believe that they are unjustified.

8
9 1. Dr. Woolridge claims that I identify the comparable risk group based on the
10 business and financial risk profile of AEP, and not CSPCo. He reminds us that
11 SB 221 does not allow consideration of the revenues, expenses, or earnings of
12 CSPCo's parent or affiliates.

13
14 While Dr. Woolridge is correct regarding what SB 221 prohibits, he has
15 incorrectly characterized my methodology. In fact, I repeatedly point out in
16 Makhija Direct that it is the business risk of CSPCo that I use to find firms for my
17 comparable group:

18
19 "The firms in the same cell as CSPCo and OPCo, by design, form the Comparable
20 Risk Peer Group" (page 5, lines 7-8).

21
22 "Since SB 221 requires us to focus on the business and financial risks of the
23 subject utilities, CSPCo and OPCo, and not the parent utility, I check that the

1 chosen cell is well-suited for that purpose, and that using AEP's business and
2 financial risk are appropriate starting points" (page 16, lines 15-21).

3
4 "Based on both the biases, this means that for OPCo and CSPCo the actual betas
5 would be higher than those attributed to them based on AEP betas. Consequently
6 by using AEP betas to impute the beta riskiness of CSPCo and OPCo, I offer a
7 conservative test. Note also that I use AEP beta to infer the riskiness of CSPCo
8 and OPCo, and that it is not AEP on which the SEET test is being applied" (page
9 20, lines 9-15).

10
11 "The SEET does not preclude us from estimating risks of the subsidiary firm in
12 the best way possible. Specifically, the SEET only says that "the commission
13 shall not consider, directly or indirectly, the revenues, expenses, or earnings of
14 any affiliate or parent". Also, using AEP's betas for CSPCo and OPCo in the
15 SEET gives us a more conservative test since, according to both known biases
16 regarding estimated betas and actual risk, AEP beta understates the risks for
17 CSPCo and OPCo" (page 23, lines 17-23).

18
19 "From these 25 cells, I pick the cell which has CSPCo and OPCo in it....It just
20 happens to be the case that both CSPCo and OPCo fall in the same quintile with
21 regard to book equity ratio" (page 36, lines 15 -17).

1 For the unlevered beta, since CSPCo and OPCo are not traded, I use AEP's
2 unlevered beta, which is 0.2538 for 2009....I am interested in AEP's unlevered
3 beta because it may be used as a proxy for the unlevered betas of CSPCo and
4 OPCo, consistent with standard utility practice. Since these are smaller firms and
5 low betas are known to understate, their unlevered betas are expected to be higher
6 than that for AEP. Thus, using AEP's beta as a proxy for CSPCo's and OPCo's
7 unlevered betas for the purpose of selecting the quintile makes for a conservative
8 test. Also, the upper end of the quintile is 0.4202, so that CSPCo and OPCo,
9 though riskier than AEP's unlevered beta of 0.2538, should still fall comfortably
10 within the quintile" (page 36, line 22 to page 37, line 8).

- 11
12 2. Dr. Woolridge claims that I obtain an excessively high ROE SEET threshold
13 because I use a 95% confidence level.

14
15 Dr. Woolridge is correct in noting that my Threshold ROE is higher than the
16 threshold he proposes with his 200 to 400 basis points adder. With 1.96 standard
17 deviations as an adder, I do arrive at a higher Threshold ROE. However, unlike
18 the arbitrary adder that he proposes, my use of a 95% confidence level is based on
19 long established common practice. "In this testimony, I apply the 1.96-standard
20 because it is the mostly commonly applied standard, and because it offers, in my
21 opinion, a reasonably acceptable risk of false positives" (page 30, lines 21-23). In
22 Makhija Direct, I provide extensive documentation for my position. Please see

1 from page 31, line 1 to page 33, line 11. I argue that a 95% confidence level
2 provides a reasonable level of the probability of false positives.

- 3
4 3. Dr. Woolridge asserts that I do not directly adjust the ROE for capital structure,
5 as SEET requires.

6
7 As noted in Makhija Direct (page 25, line 6 to page 26, line 4), I incorporate
8 capital structure in two explicit ways: (a) unlevered betas are derived from *Value*
9 *Line* betas after taking the debt-to-equity ratio (D/E) into account, and (b) the
10 formation of cells is based on the book common equity ratio. While this may not
11 be the method Dr. Woolridge prefers to make capital structure adjustments, it
12 may have advantages over his procedure (discussed above). In identifying
13 comparable firms, my direct use of book common equity ratio may be a cleaner
14 procedure of taking capital structure into account for financial risk. SEET does
15 not require a specific method for taking into account capital structure.

16
17 **Cahaan**

18 Q. **WHAT ISSUES DOES STAFF WITNESS CAHAAN'S TESTIMONY RAISE**
19 **THAT YOU WOULD LIKE TO ADDRESS?**

20 A. I would like to respond to the following three criticisms that Mr. Cahaan has
21 made regarding my approach.

- 1 (i) First, on page 6, line 19, he refers to a “black box” aspect of my approach,
2 where informed judgment is not allowed to play a useful role in the formation
3 of the comparable group.
- 4 (ii) Second, he claims that the approach does not yield desirable “stability” in the
5 set of firms that comprise the comparable set (page 7, line 8).
- 6 (iii) Third, he suggests that the unlevered beta, which I employ, may be an
7 appropriate measure of business risk faced by investors, but that the subject
8 utilities, CSPCo and OPCo, face additional risks which they cannot diversify
9 away like investors (page 8, lines 4-7).
- 10

11 **Q. HOW DO YOU RESPOND TO DR. CAHAAN’S “BLACK BOX” CRITICISM**
12 **OF YOUR APPROACH?**

13 A. Apparently, Dr. Cahaan characterizes my approach in this manner because I do not
14 *a priori* assert which firms or industries will match the business risk of the subject
15 utility. Certainly, there is comfort in proposing firms as matches if we have prior
16 knowledge about them. After all, they would be known entities. Unfortunately,
17 subjective prejudgment without quantification of business risk, can lead to
18 mismatches in practice. We have before us an example of just such a mismatch.
19 Dr. Woolridge starts with a selection of electric utilities as the best matches, his
20 proxy group. Writing about the selection of matches, he says, “Presumably, this
21 would mean capital intensive, service industries. Nonetheless, the most compatible
22 companies are most likely to be public utilities” (Wollridge Direct, Page 5, lines 14-
23 16). Given that CSPCo and OPCo are utilities, this would seem quite reasonable.

1 Thus, having chosen the Proxy Electric Group, he proceeds to develop a screen
2 based on their characteristics so that he may search for other matching firms.
3 Unfortunately, the screens and the consequently identified other firms are in fact
4 poor representations of the subject matches, despite one's ability to "look at each
5 step and make a determination as to appropriateness" (Cahaan, page 4, line 4
6 regarding the Woolridge procedure). In the screen, the range for betas has a
7 maximum value of 0.75 (JRW, Table 2, page 14). But, as noted above as well, we
8 know that AEP had betas of 0.75, 0.70, 0.75, and 0.70 during the four quarters of
9 2009, an average of about 0.73. Moreover, we expect CSP and OPCo to have
10 higher betas than AEP because it is known that smaller firms have higher betas.

11
12 Using unlevered betas, as measures of business risk, to identify matches avoids
13 these pitfalls. Moreover, our choice of metric for business risk, the unlevered beta,
14 allows us to readily look across utility and non-utility firms for comparable business
15 risk, just as SB 221 requires. This is important because utility and non-utility firms
16 can have the same business risk, even though on the surface that may appear
17 counterintuitive to those trying to replicate business risk in the precise manner in
18 which we see it in electric utilities. SB 221 requires us to look at utilities, and
19 beyond utilities, where businesses by definition are different, but business risks can
20 still be similar.

1 Ultimately, there is still scope for judgment once the comparable firms have been
2 identified. But, the bar is now high when making the case for the exclusion of an
3 “outlier,” since every firm was chosen because it had a similar business risk.

4
5 In conclusion, the process for searching for comparables with a well-defined metric
6 in hand is a more objective and visible process than the “black box” of subjectively
7 proposing matching.

8
9 **Q. HOW DO YOU RESPOND TO MR. CAHAAN’S CRITICISM THAT YOUR**
10 **APPROACH DOES NOT YIELD A STABLE COMPARABLE GROUP OF**
11 **FIRMS?**

12 A. Mr. Cahaan finds that the comparable groups that I have developed have
13 considerable changes in composition. Yet, this lack of stability might well be a
14 strength of my approach. Consider the facts. The *Value Line* beta of AEP in 2007
15 was 1.35, which is 35% riskier than the average stock (the market). In 2009, AEP
16 ended the year with a beta of 0.70, which is 30% lower risk than the market.
17 Stability in the composition of the comparable group in the face of this 65% swing
18 in stock risk would be a problem. There were notable changes in AEP betas in
19 2005 and 2005 as well. (Though CSPCo may have higher betas, it will likely follow
20 a similar trend in its betas). Yet, Dr. Woolridge proposes a virtually unaltered proxy
21 group! It appears that my methodology is responsive to the changing risks of the
22 subject utilities.

1 **Q. HOW DO YOU RESPOND TO MR. CAHAAN'S CRITICISM THAT BETA**
2 **IS AN INAPPROPRIATE MEASURE OF RISKS FACED BY THE**
3 **COMPANY SINCE IT CANNOT DIVERSIFY AWAY RISKS LIKE**
4 **INVESTORS CAN?**

5 **A.** The concern is that betas measure risk left over after taking care of any diversifiable
6 risk. This opens up the possibility that there is a difference in risks faced by
7 investors of the subject utility and the risks faced by the firm itself. While investors
8 can form portfolios from the many securities available to them in the capital market,
9 the firm cannot similarly get rid of the diversifiable part of the risk.

10

11 There are several reasons why this concern is not relevant in this situation. One, if
12 we allow for a lack of diversification at the firm level, we will simply overstate the
13 risk faced by the firm relative to investors who have the benefit of access to
14 diversification. That is, using beta provides for a conservative test. But, there is a
15 more fundamental issue here in the sense of who the firm represents. SB 221 points
16 in the direction of common shareholders because it explicitly refers to the "earned
17 return on common equity of the electric distribution utility" in 4928.143(F). In
18 fact, this is clarified further in the definition of earned return in the Commission's
19 Finding and Order which is profits after debt providers and preferred shareholders
20 have been paid off. Common shareholders of course have the opportunity to
21 diversify, making beta the relevant risk measure. Finally, a separation between the
22 firm and the shareholders requires various presumptions about a failure of corporate
23 governance, which would have elicited a more explicit recognition in 4928.143(F).

1 In practice, based on a survey of CFOs of corporations, undertaken by John Graham
2 and Campbell Harvey, *Journal of Financial Economics* 61 (2001), 187-243, beta is
3 by far the most widely used measure for taking risk into account.

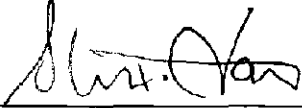
4

5 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

6 **A. Yes it does.**

CERTIFICATE OF SERVICE

I hereby certify that a copy of Rebuttal Testimony of Anil K. Makhija was served by hand delivery or U.S. Mail upon the counsel for all other parties of record in this case listed below, on this 26th day of October, 2010.



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