

August 23, 2010

Via EDGAR

United States Securities and Exchange Commission
Division of Corporation Finance
100 F Street, N.E.
Washington D.C. 20549-4631

Attention: John Cash,
Accounting Branch Chief

**Re: Alcoa Inc.
Form 10-K for the Fiscal Year Ended December 31, 2009
File No. 1-3610
Filed February 18, 2010**

Dear Mr. Cash:

On behalf of Alcoa Inc. (the "Company"), set forth below are responses to the comments of the Staff (the "Staff") of the Securities and Exchange Commission (the "Commission") contained in the Staff's letter dated August 5, 2010 (the "Comment Letter"), relating to the Form 10-K for the fiscal year ended December 31, 2009 (file no. 1-3610) (the "2009 10-K"), filed by the Company on February 18, 2010. The headings and numbered paragraphs of this letter correspond to the headings and paragraph numbers contained in the Comment Letter, and to facilitate your review, we have reproduced the text of the Staff's comments in boldfaced print below.

FORM 10-K FOR THE FISCAL YEAR ENDED DECEMBER 31, 2009

MD&A - Critical Accounting Policies and Estimates

Pension Plans and Other Postretirement Benefits, Page 70

1. **We note your response to prior comment two. With a view to enhanced disclosures in future filings, please address the following regarding your determination of pension assumptions:**
 - **Tell us your 10 year and 20 year moving averages of actual performance during each of the last three years;**

Response: In response to the Staff's comment, our 20- and 10-year moving averages of actual performance during each of the last three years were as follows:

	<u>2009*</u>	<u>2008*</u>	<u>2007</u>
20-year	8.90%	9.19%	10.87%
10-year	4.95%	5.03%	8.91%

* The 2009 and 2008 moving averages were significantly affected by the aberrant results of 2008, by far the worst annual performance of the Company's plans' assets in more than 30 years.

- **Tell us your 5 year average market value of plan assets during each of the last three years. Also, clarify your disclosure that the expected rate of return is "generally" applied to a 5 year average market value of plan assets. If you applied the expected rate of return to something other than the 5 year average market value of plan assets, tell us what you applied it to and explain why.**

Response: In response to the Staff's comment, we apply the expected rate of return to the 5-year average market value of plan assets for our U.S. plans and most of our international plans (one of which consistently uses a 4-year average), which together represent a little more than 90% of the global plan assets for all of our defined benefit pension plans. The 5-year average (and 4-year average as mentioned above) market value of the aforementioned U.S. and international plan assets during 2009, 2008, and 2007 was \$8,616 million, \$8,937 million, and \$9,215 million, respectively.

For the remaining international plans, we apply the expected rate of return to the current fair value of plan assets at the measurement date. The use of the current fair value of plan assets at the measurement date has historically been the method applied for a limited number of the Company's international plans due to ease of administration. In future annual filings, we will expand our disclosure in this area to clarify the different methodologies applied.

- **Based on your response it is not clear to us if you determine expected rates of return by plan asset type or only for total plan assets. If you determine expected rates of return by plan asset type, provide those expected rates of return during each of the last three years. If you only determine the expected rate of return for total plan assets, provide us a more comprehensive explanation regarding how you consider the impact of changes in plan asset allocations on your expected rate of return.**

Response: The Company respectfully advises the Staff that prior to 2009, management focused on historical returns on the overall portfolio when developing the expected rate of return assumption. A forward-looking component of the analysis began during 2009 as management was developing the assumption that is being used for calendar 2010. A more detailed description of the processes undertaken during both 2008 and 2009 is included in the following paragraphs.

Under the historical analysis, management looks at rates of return (including both current-year performance and the 10- and 20-year moving averages discussed in the first bullet point above) on the overall portfolio. Based on this analysis, management utilized 9% as its expected rate of return for several years leading up to 2008. During the fourth quarter of 2008, when the Company was evaluating its expected rate of return assumption to be used for calendar 2009, the poor investment performance of 2008 and its corresponding impact on the 10- and 20-year moving averages were significant factors considered by management. In 2008, the actual performance was a negative 19.51% – the next closest annual return was negative 4.6% in 2002, and there were only three other years out of the last thirty-five where annual returns were negative. For illustrative purposes, if the actual performance of 2008 was excluded from the calculation, the adjusted 10-year average would have been 8.20% as opposed to the 5.03% included in the first bullet point above. The decline in the return of the 10-year moving average, on both an unadjusted and adjusted basis, suggested a reduction in the rate should be considered.

Based on the above analysis, management determined the expected rate of return should be reduced. Given the strong performance of the 20-year moving average (which equaled 9.19%, even when reflecting the aberrant 2008 results), management concluded a reduction in the rate from 9.0% to 8.75% for purposes of measuring 2009 pension expense was appropriate.

During the fourth quarter of 2009, management again prepared the historical analysis in connection with developing calendar 2010 assumptions. In connection with this historical analysis, a strong actual 2009 investment performance (12.13%) and a 20-year moving average return of 8.90%, which continued to exceed 8.75%, were significant factors considered by management.

In addition, during this time a forward-looking process began in connection with developing the rate to be used for calendar 2010, as more fully described in the following paragraph.

Management developed expected returns by asset class (including sub-categories) for equities, fixed income, and alternative investments. These expected returns were based on both information from various external

investment managers and management's judgment, and primarily represent passive returns by asset type. Management applied these expected rates by asset class to the pension investments, considering both the current policy target allocation and any planned strategic asset allocation changes, to develop a weighted-average expected passive return for the portfolio. Added to this result was an expected alpha, representing the premium over the expected passive return as a result of active management of the portfolio by various investment managers and the impact of differences between our actual asset allocation and our target asset allocation. The sum of the weighted-average expected passive return and the alpha represents the expected total return. The result of this analysis is summarized in the table below:

	2010	
	<u>Expected Return</u>	<u>Asset Allocation*</u>
Equities	9.2%	31%
Fixed income	5.6%	50%
Alternatives	10.2%	19%
Expected passive return	7.59%	
Expected alpha	1.00%	
Expected return	8.59%	

- * Please note that these allocations represent the Company's asset mix at the time this analysis was developed adjusted for planned strategic allocation changes and may differ from actual allocations at any given point in time.

The expected rate of 8.75% that management had been using was between the 20-year moving average return of 8.9% and the forward-looking analysis above. Giving consideration to both analyses, management concluded a further reduction in the expected rate of 8.75% was not necessary for purposes of measuring 2010 pension expense.

In future annual filings, the Company will include additional disclosure surrounding the process followed to determine the assumption for the expected rate of return.

- **It appears to us that your expected rate of return is high relative to the average of other registrants and that the allocation of your plan assets to equity securities is low relative to other registrants' allocations. Provide us a more comprehensive explanation detailing why your expected rate of return is high relative to other registrants, particularly in light of the allocation of your plan assets.**

Response: The Company respectfully advises the Staff that management does not have visibility into the processes used by other registrants to develop their assumption for expected return on plan assets. However, in response to the Staff's comment, we do review benchmark data of

expected return assumptions used by other companies with large pension portfolios. Based on our review of this data, while our rate may be slightly above the overall mean, we do not believe it is an outlier compared to the rates used by these companies. Even though our asset allocation in equities may be lower than certain registrants with overall expected returns lower than ours, we have a significant allocation in alternative investments, which are the highest-yielding investments in our pension portfolio.

As discussed in the bullet point directly above, the determination of the Company's expected rate of return is a comprehensive process that is carefully scrutinized by our financial accounting, benefits accounting, and pension investment groups. The assumption is then reviewed and approved by executive management. We believe the Company's expected rate of return of 8.75% for 2009 and 2010 represents management's best estimate and is appropriate.

- **In regard to your discount rate, we note your disclosure related to the refinement of your yield curve model in 2008 and 2009 to exclude certain corporate bonds severely impacted by the global economic downturn. Provide us a more comprehensive explanation of those refinements, including what you included and excluded and how you made those determinations.**

Response: The Company respectfully informs the Staff that, in 2005, we adopted a yield curve model approach to determine our discount rate assumption. This model was developed with the assistance of our external actuaries and was utilized through 2007. In 2008, due to the global economic downturn and the resulting dislocation and extreme volatility in the bond market, our bond yield data had an unprecedented level of dispersion, resulting in a statistically less reliable curve as compared to prior years. As such, with the assistance of our external actuaries, we refined our yield curve model by selecting 70% of the highest-yielding bonds in each tranche (based on duration - each tranche corresponded to one year of maturities) of bonds. This methodology was designed to derive a higher level of confidence in the yield curve, highlighted by an 11% decrease in the potential deviation of the refined yield curve model as compared to the original yield curve model (from .097% to .086%), while ensuring the output of the refined model would continue to exceed the cash flow needs of our pension obligation (approximately five times). The refined yield curve model included 76 high-quality corporate bonds, representing an appropriate level of diversification from issuers in the finance, banking, industrial, transportation, and utility sectors.

This refined yield curve process was applied again in 2009, and included 94 high-quality corporate bonds across a broad number of issuers and industries. The process again provided a higher level of confidence in the yield curve, and the output of the refined model continued to exceed the future cash flow needs of our pension obligation (approximately five and one-half times). As such, management has determined this refined yield curve methodology will be its primary approach to developing the discount rate for the foreseeable future.

FORM 8-K FILED ON JULY 13, 2010

2. **We note you present the non-GAAP measures EBITDA and EBITDA Margin in your earnings releases. Since the measures you present are adjusted for items in addition to what these acronyms suggest, please revise the titles of the measures you present in future earnings releases and filings. See our response to Question 103.01 in the C&DIs related to Non-GAAP Financial Measures.**

Response: In response to the Staff's comment, the Company will revise the title of EBITDA and EBITDA Margin in future earnings releases and filings to include the term "Adjusted" when those measures are adjusted for items in addition to what the acronym suggests. The Company will also continue to include the explanatory paragraph (which will also now include the term "Adjusted") that accompanied the EBITDA reconciliation in the Form 8-K filed on July 13, 2010. The following is an excerpt from that paragraph:

"Alcoa's definition of EBITDA is net margin plus an add-back for depreciation, depletion, and amortization. Net margin is equivalent to Sales minus the following items: Cost of goods sold; Selling, general administrative, and other expenses; Research and development expenses; and Provision for depreciation, depletion, and amortization."

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The Company acknowledges the following:

- the Company is responsible for the adequacy and accuracy of the disclosure in the filing;
- Staff comments or changes to disclosure in response to Staff comments do not foreclose the Commission from taking any action with respect to the filing; and
- the Company may not assert Staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

If you have any questions with respect to the foregoing, please contact me at (212) 836-2689 or Graeme Bottger, Vice President and Controller, at (412) 553-2169.

Very truly yours,

/s/ Charles D. McLane, Jr.
Charles D. McLane, Jr.
Executive Vice President and
Chief Financial Officer