



UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

DIVISION OF
CORPORATION FINANCE

September 27, 2010

John K. Welch
President and Chief Executive Officer
USEC Inc.
Two Democracy Center
6903 Rockledge Drive
Bethesda, Maryland 20817

**Re: USEC Inc.
Form 10-K for the Fiscal Year Ended December 31, 2009
Filed March 1, 2010
Definitive Proxy Statement on Schedule 14A
Filed March 19, 2010
File No. 1-14287**

Dear Mr. Welch:

We have reviewed your filings and have the following comments. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within ten business days by amending your filing, by providing the requested information, or by advising us when you will provide the requested response. If you do not believe our comments apply to your facts and circumstances or do not believe an amendment is appropriate, please tell us why in your response.

After reviewing any amendment to your filing and the information you provide in response to these comments, we may have additional comments.

Annual Report on Form 10-K for the Fiscal Year Ended December 31, 2009

Business and Properties, page 3

1. We note your disclosure at page 5 that revenue from Exelon Corporation represented more than 10% of your total revenue in 2009. Please file any sales contracts with Exelon, or tell us why you are not required to file them. See Item 601(b)(10) of Regulation S-K.

Definitive Proxy Statement on Schedule 14A filed March 19, 2010

Executive Compensation, page 21

Compensation and Analysis, page 21

2. We note your disclosure at page 34 regarding the performance goals for 2009 under your 2009 Performance Plan. Please expand your disclosure to clarify all material quantitative and qualitative measures that comprise each of the listed performance goals, and disclose your performance against each such measure. For example, and without limitation, please clarify how you determined whether the company “ensure[d] sufficient liquidity” to fund ongoing company operations with respect to the threshold performance level. To the extent that you believe that disclosure of the measures would result in competitive harm such that they could be excluded properly under Instruction 4 to Item 402(b) of Regulation S-K, please provide on a supplemental basis a detailed explanation supporting your conclusion.

Closing Comments

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes the information the Securities Exchange Act of 1934 and all applicable Exchange Act rules require. Since the company and its management are in possession of all facts relating to a company’s disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In responding to our comments, please provide a written statement from the company acknowledging that:

- 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.

Please contact Parker Morrill at (202) 551-3696 or Laura Nicholson at (202) 551-3584 with any questions.

Sincerely,

H. Roger Schwall
Assistant Director