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

DIVISION OF
CORPORATION FINANCE

March 7, 2012

Via E-mail
Vikas Sinha, M.B.A., C.A.
Senior Vice President and Chief Financial Officer
Alexion Pharmaceuticals, Inc.
352 Knotter Drive
Cheshire, CT 06410

Re: Alexion Pharmaceuticals, Inc.
Form 10-K for the Fiscal Year Ended December 31, 2011
Filed February 17, 2011
File No. 000-27756

Dear Mr. Sinha:

We have limited our review of your filing to only your financial statements and related disclosures and do not intend to expand our review to other portions of your document. In our comments, we ask you to provide us with information so we may better understand your disclosure.

Please respond to this letter within 10 business days 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, please tell us why in your response. Please furnish us a letter on EDGAR under the form type label CORRESP that keys your responses to our comments.

After reviewing the information you provide in response to these comments, we may have additional comments and/or request that you amend your filing.

Management's Discussion and Analysis of Financial Condition and Results of Operations

Critical Accounting Policies and Use of Estimates
Revenue Recognition
Net Product Sales, page 42

1. You indicate that $24 million of the accounts receivables affected by the credit and economic conditions in Europe have been outstanding for greater than a year for which you have recorded an allowance of $3.5 million. Please tell us why you believe the remaining amount is still collectible.

Cash Flows
Financing Activities, page 55

2. You have $540.9 million in cash and cash equivalents at December 31, 2011 and foreign operations are becoming increasingly significant to your business. Please provide proposed revised disclosure to be included in future periodic reports of the amount of cash and investments that are currently held by your foreign subsidiaries that are considered reinvested indefinitely and its expected effect on your liquidity and capital resources. Refer to Item 303(a)(1) of Regulation S-K and Section IV of SEC Release 33-8350.

Notes to Consolidated Financial Statements

1. Business Overview and Summary of Significant Accounting Policies, page F-7

3. The Healthcare Reform Act requires many changes for the pharmaceutical industry, including an annual fee to be assessed on pharmaceutical manufacturers, changes in Medicaid prescription drug rebates, changes in the Medicare coverage gap, as well as other changes that may have affected your current results of operations. In addition, other changes may affect future periods. Please provide proposed disclosure to be included in future periodic reports of your accounting policies for the changes. For example, disclose how you are recording the amounts due for the fee assessed to pharmaceuticals and where the amounts are classified in the income statement. Provide us your accounting basis for the policies to be disclosed. In addition, provide proposed disclosure to be included in future periodic reports for Management's Discussion and Analysis of the effects the Healthcare Reform Act had on your liquidity and results of operations for each period presented and the anticipated effects the legislation will have on your future liquidity and results of operations.

Inventories, page F-9

4. You state that "For products with an approved indication, raw materials and purchased drug product associated with clinical development programs are included in inventory and charged to research and development expense when consumed. For products without an approved indication, purchased drug product is charged to research and development expense upon final quality release. We also capitalize the cost of inventory manufactured at our manufacturing plant in property, plant and equipment prior to the approval of the facility by regulatory authorities." Please provide proposed disclosure to be included in future periodic reports to clarify your policy as follows:
   - Clarify what you mean by "for products with an approved indication" and "for products without an approved indication". Clarify if these costs relate to inventory capitalized prior to regulatory approval or if the costs relate to products that are purchased to be used in research and development activities.
   - Clarify what you mean by "final quality release" and why you believe that is the point in time in which research and development expense should be recorded.
   - Clarify how the costs that you capitalize at your manufacturing plant are accounted for after the manufacturing facility is approved and how the costs are expensed in the

financial statements. State if the inventory produced can be sold after approval. Clarify if the costs are recorded as cost of goods sold if the product is sold or expensed as depreciation expense once the manufacturing plant is approved.

- Clarify how you account for the costs of inventory relating to getting manufacturing plant approval in which the validation batches are not successful.
- Tell us the accounting literature you used to support your accounting treatment for the capitalization of inventory.
- If material, separately disclose the inventory capitalized relating to inventory available for sale, inventory produced prior to regulatory approval, and inventory to be used in research and development activities separately by each category of raw materials, work-in-process, and finished goods.

12. Income Taxes, page F-25

5. You state "it is not practical to estimate the amount of additional taxes which might be payable on our undistributed earnings". Please provide proposed revised disclosure to be included in future periodic reports to indicate whether such estimate is *practicable*. Refer to ASC 740-30-50-2c.

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 all 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.

You may contact Tabatha Akins, Staff Accountant, at (202) 551-3658 or Mary Mast, Senior Staff Accountant, at (202) 551-3613 if you have any questions regarding the comments. In this regard, do not hesitate to contact me at (202) 551-3679.

Sincerely,

/s/ Jim B. Rosenberg

Jim B. Rosenberg
Senior Assistant Chief Accountant