

VIA EDGAR

April 11, 2012

U.S. Securities and Exchange Commission  
Division of Corporation Finance  
100 F Street, NE  
Washington, D.C. 20549

Attention: Jim B. Rosenberg

**Re: Alexion Pharmaceuticals, Inc.**  
**Form 10-K for the Fiscal Year Ended December 31, 2011**  
**Filed February 17, 2012**  
**File No. 000-27756**

Ladies and Gentlemen:

On behalf of Alexion Pharmaceuticals, Inc. ("Alexion"), submitted herewith is a response to comments contained in the letter dated April 3, 2012 from Jim B. Rosenberg of the Staff ("Staff"), of the Securities and Exchange Commission ("Commission") to Vikas Sinha, M.B.A., C.A. Alexion's Senior Vice President and Chief Financial Officer. The comments and responses set forth below are keyed to the numbering of the comments and the headings used in the Staff's letter.

On behalf of Alexion, we advise you as follows:

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. *Please refer to your response to comment one. Please provide proposed additional disclosure to be included in future filings that includes an aging of your sovereign and non-sovereign receivables related to Italy, Spain and Greece along with the allowance recorded by category. We believe that the information should be broken down by any country which is experiencing significant economic, fiscal and/or political strains such that the likelihood of default would be higher than would be anticipated when such factors do not exist. In this respect, separately disclose your receivable balance for Italy, Spain, and Greece. Also, please consider CF Disclosure guidance Topic 4 in your proposed disclosure which can be found at <http://sec.gov/divisions/corpfin/guidance/cfguidance-topic4.htm>*

**Response:** In response to the Staff's comment, we will provide disclosure in substance similar to the following:

“We continue to monitor the impact of economic conditions, including volatility associated with international economies and the sovereign debt crisis in Europe, and the associated impacts on the financial markets and our business. The credit and economic conditions in Greece, Italy and Spain, among other members of the European Union, have deteriorated throughout 2011. These conditions have resulted in, and may continue to result in, an increase in the average length of time it takes to collect our outstanding accounts receivable in these countries. Substantially all of the accounts receivable due from these countries are due from or backed by sovereign and local governments, and the amount of non-sovereign accounts receivable is not material. As of December 31, 2011, our gross accounts receivable in Greece, Italy and Spain were approximately \$81,300. Approximately \$24,000 of this amount has been outstanding for greater than one year, and we have recorded an allowance of approximately \$3,500 related to these receivables as of December 31, 2011.

Our net accounts receivable balances in these countries are summarized as follows:

	Total Accounts Receivable, net	Accounts Receivable, net > one year
Greece	\$ 1,220	\$ 662
Italy	33,054	6,810
Spain	43,555	14,165 ”

We have not provided the allowance amounts by country because the financial exposure for each country is disclosed above and the amounts of each allowance by country are not material to our financial statements.

#### Cash Flows

#### Financing Activities, page 55

2. *Please refer to your response to comment two. You state in your proposed disclosure “At December 31, 2011, our foreign subsidiaries had liabilities due to entities in the U.S. in excess of the amount of cash and cash equivalents held outside the United States, and therefore, entities in the U.S. can access the substantial portion of foreign cash and investment balances without negative tax consequences.” Please revise your proposed disclosure to clarify the intent of this statement, to describe the nature of these entities and their relationship to the Company's foreign subsidiaries and to specify the amount of cash and investment balances accessible at December 31, 2011. Additionally, your proposed disclosure indicates that the cash can be accessed without negative tax consequences, while the disclosure on page F-29 indicates that you have not provided US income taxes on undistributed earnings of your non-US subsidiaries as these earnings are intended to be permanently reinvested. As these statements appear to contradict each other, please further revise your proposed disclosure to clarify these statements and to disclose the amount of cash and cash equivalents at December 31, 2011 held in foreign entities for which there would be tax implications upon repatriation.*

**Response:** The amount of cash held overseas and the amount of unremitted foreign earnings are two related but distinct concepts, and we will address each item separately.

As noted in our prior response to comment 2, we held approximately \$72 million of our cash and cash equivalents at our subsidiaries outside of the United States as of December 31, 2011. Early commercial losses of newly-formed foreign subsidiaries were funded through an interest-bearing loan from the Alexion parent company located in the United States in an amount that exceeds \$72 million.

Due to the liability position of our foreign subsidiaries, we are able to access the \$72 million of cash without negative tax consequences through a repayment of this liability first, prior to repatriating any foreign earnings.

As noted in our response to Comment #4 below, our foreign subsidiaries had unremitted earnings of approximately \$50 million. We have not provided for US income taxes on the undistributed earnings as these earnings are intended to be permanently reinvested, or subject to a tax-free liquidation.

In response to the Staff's comment, we will provide revised disclosure in substance similar to the following:

“At December 31, 2011, approximately \$72 million of our cash and cash equivalents was held by our foreign subsidiaries, a significant portion of which is required for liquidity needs of our foreign subsidiaries. Early commercial losses of the foreign subsidiaries were funded through an interest-bearing loan from the Alexion parent company located in the United States in an amount that exceeds \$72 million. our foreign subsidiaries had liabilities due to entities in the U.S. in excess of the amount of cash and cash equivalents held outside the United States, and therefore, entities in the U.S. can access the substantial portion of foreign cash and investment balances without negative tax consequences. Due to the liability position of our foreign subsidiaries, we are able to access the \$72 million of cash without negative tax consequences through a repayment of this liability first, prior to repatriating any foreign earnings.”

Notes to Consolidated Financial Statements

Inventories, page F-9

- 3 *Please refer to your response to comment four. FASB Concept Statement No. 5 does not establish generally accepted accounting standards. Please consider removing your reference to this guidance from your proposed disclosure, and confirm to us that you are capitalizing costs related to validation activities which are directly attributable to preparing the facility for its intended use under ASC 360-10-30-1.*

**Response:** We confirm that we are capitalizing costs related to validation activities which are directly attributable to preparing the facility for its intended use under ASC 360-10-30-1, and we will revise the disclosure accordingly.

4. *Please disclose the amount of undistributed earnings of foreign subsidiaries. Refer to ASC 740-30-50-2b.*

**Response:** In response to the Staff's comment, we will provide disclosure in substance similar to the following:

“As of December 31, 2011, we have not provided US income taxes on approximately \$50 million of undistributed earnings of our non-US subsidiaries as these earnings are intended to be either permanently reinvested or subject to a tax free liquidation and do not give rise to significant incremental US taxes. It is not practicable to estimate the amount of additional taxes which might be payable on our undistributed earnings due to a variety of factors, including the timing, extent and nature of any repatriation.”

Should you have any questions or require additional information, please telephone the undersigned at (203) 271-8336.

Very truly yours,

/s/ Michael V. Greco

Michael V. Greco  
Associate General Counsel and Corporate Secretary

cc: Leonard Bell, Alexion Pharmaceuticals, Inc.  
Vikas Sinha, Alexion Pharmaceuticals, Inc.  
Thomas Dubin, Alexion Pharmaceuticals, Inc.  
Scott Phillips, Alexion Pharmaceuticals, Inc.  
Patrick O'Brien, Ropes and Gray LLP