

November 21, 2011

John F. Della Grotta, Esq.
Law Offices of Paul Hastings LLP
695 Town Center Drive
Costa Mesa, CA 92626-1924

Re: Kayne Anderson MLP Investment Company
File Nos. 333-177550 and 811-21593

Dear Mr. Della Grotta:

On October 26, 2011, you filed a registration statement on Form N-2 for Kayne Anderson MLP Investment Company (the "Fund") in connection with the shelf registration of its common stock and preferred stock. We have reviewed the registration statement, and have provided our comments below. For convenience, we generally organized our comments using headings, defined terms and page numbers from the registration statement.

PROSPECTUS

Cover Page

1. The second sentence of the first paragraph states that the Fund invests in "energy-related partnerships and their affiliates (collectively, "MLPs")." Please revise the parenthetical to state "(collectively, "master limited partnerships" or "MLPs")."
2. The second sentence of the second paragraph states that the Fund may offer common stock or preferred stock "separately or together" on terms set forth in a prospectus supplement. Please provide us with the following:
 - An explanation as to why common and preferred stock offered together should not be deemed a separate security;
 - An example of how common and preferred stock would be offered and priced together; and
 - An explanation of how the Fund will ensure that common and preferred stock sold together are priced in a manner that would not result in common shares sold below net asset value. See Section 23(b) of the Investment Company Act of 1940.

In addition, please include an undertaking in Part C of the registration statement to file for staff review a post-effective amendment under Section 8(c) of the Securities Act of 1933 (the "Securities Act") with respect to any offering of common and preferred stock together. We may have further comments after reviewing your response.

Prospectus Summary — Investment Policies (Page 2)

3. The fifth bullet point of this section discloses that the Fund may invest up to 20% of its total assets in debt securities, including below investment grade debt securities. Please include the term "junk bonds" in the description of these securities.

Prospectus Summary — The Offering — Use of Financial Leverage (Page 4)

4. The first paragraph of this section states that the Fund plans to utilize financial leverage through the issuance of preferred stock and debt securities, a revolving credit facility, and "other borrowings." Please provide examples of the types of "other borrowings" that may be used. In addition, please confirm that expenses associated with issuing preferred stock will be estimated in the Fund's fee table.

5. The second paragraph of this section expresses the amount of leverage the Fund may use as a percentage of total assets. Please also express the amount of leverage as a percentage of the Fund's net assets.

Prospectus Summary — The Offering — Derivatives and Other Strategies (Page 4)

6. This section states that the Fund intends to use derivative investments. Please disclose how derivatives will be valued for purposes of the Fund's 80% test. Also, please include a statement in your response letter that the Fund will not use the notional value of swaps for purposes of its 80% test. Additionally, please advise us whether the Fund will pay a fixed rate or a variable/floating rate on its side of swaps.

7. Since the Fund intends to use derivative investments, please consider the staff observations concerning derivatives disclosure set forth in the letter from Barry D. Miller, Associate Director, Office of Legal and Disclosure, to Karrie McMillan, General Counsel, Investment Company Institute, dated July 30, 2010. See <http://www.sec.gov/divisions/investment/guidance/ici073010.pdf>.

Fees and Expenses (Page 10)

8. Footnote (2) to the table of Fees and Expenses provides that a related prospectus supplement will disclose offering expenses "borne by us." As offering expenses are borne, either directly or indirectly, by shareholders, please delete the reference to "borne by us."

9. Footnote (6) to the table of Fees and Expenses states that the management fee is calculated as a percentage of the Fund's "average total assets." Please advise us how derivatives will be valued for purposes of determining "average total assets." Also, in your response letter to us, please provide an affirmative statement that the Fund will not use the notional value of its derivative investments for purposes of determining "average total assets."

Use of Proceeds (Page 16)

10. Disclosure in the second paragraph of this section states that the length of time it will take to invest proceeds from any securities offering is expected to be less than three months "in most circumstances." Please describe the circumstances that may be expected to result in a delay in excess of three months. See Guide 1 to Form N-2.

**Risk Factors — Risks Related to Our Investments and Investment Techniques —
*Derivatives Risk (Page 27)***

11. The third paragraph of this section describes the risks associated with counterparties to derivative transactions. Please inform us whether the Fund will have any limits on the amount of exposure it may have to a particular counterparty. We may have additional comments after reviewing your response.

Risk Factors — Risks Related to Our Investments and Investment Techniques — *Short Sales Risk (Page 28)*

12. This section states that the Fund may engage in short selling. Please confirm that the fee table will include, as an expense, an estimate of the dividends paid on the Fund's short sale transactions. See AICPA Audit and Accounting Guide: Investment Companies ¶ 7.93.j (May 2010).

Management — Investment Management Agreement (Page 51)

13. The first paragraph of this section describes the management fee of 1.375% of average quarterly total assets. Please also state generally what the adviser's fee is as a percentage of average net assets. See Instruction 1 to Item 9.1.b(3) of Form N-2.

General Comments

14. Where a comment is made in one location, it is applicable to all similar disclosure appearing elsewhere in the registration statement.

15. We note that portions of the filing are incomplete. We may have additional comments on such portions when you complete them in pre-effective amendments, on disclosures made in response to this letter, on information you supply to us, or on exhibits added in any pre-effective amendments.

16. If you intend to omit certain information from the form of prospectus included with the registration statement that is declared effective, in reliance on Rule 430A under the Securities Act, please identify the omitted information to us, preferably before filing the final pre-effective amendment.

17. Please advise us if you have submitted or expect to submit an exemptive application or no-action request in connection with your registration statement.

18. Responses to this letter should be in the form of a pre-effective amendment filed pursuant to Rule 472 under the Securities Act. Where no change will be made in the filing in response to a comment, please indicate this fact in a letter to us and briefly state the basis for your position.

19. We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing reviewed by the staff to be certain that they have provided all information investors require to make an informed decision. Since the Fund and its management are in possession of all facts relating to the Fund's disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

Notwithstanding our comments, in the event the Fund requests acceleration of the effective date of the pending registration statement, it should furnish a letter, at the time of such request, acknowledging that

- should the Commission or the staff, acting pursuant to delegated authority, declare the filing effective, it does not foreclose the Commission from taking any action with respect to the filing;
- the action of the Commission or the staff, acting pursuant to delegated authority, in declaring the filing effective, does not relieve the Fund from its full responsibility for the adequacy and accuracy of the disclosure in the filing; and
- the Fund may not assert this action as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Investment Management in connection with our review of your filing or in response to our comments on your filing.

We will consider a written request for acceleration of the effective date of the registration statement as a confirmation of the fact that those requesting acceleration are aware of their respective responsibilities. We will act on the request and, pursuant to delegated authority, grant acceleration of the effective date.

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John F. Della Grotta, Esq.
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Should you have any questions prior to filing an amendment, please feel free to contact me at (202) 551-6959.

Sincerely,

Edward P. Bartz
Staff Attorney