Kayne Anderson MLP Investment CO Form N-PX August 19, 2010

OMB APPROVAL

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION Washington, DC 20549

FORM N-PX

ANNUAL REPORT OF PROXY VOTING RECORD OF REGISTERED MANAGEMENT INVESTMENT COMPANY

Investment Company Act file number 811-21593

Kayne Anderson MLP Investment Company (Exact name of registrant as specified in charter)

717 Texas Avenue, Suite 3100 Houston, Texas 77002
(Address of principal executive offices) (Zip code)

David J. Shladovsky, Esq. KA Fund Advisors, LLC 717 Texas Avenue, Suite 3100 Houston, Texas 77002 (Name and address of agent for service)

Registrant's telephone number, including area code: (310) 284-6438

Date of fiscal year end: November 30

Date of reporting period: July 1, 2009 - June 30, 2010

Form N-PX is to be used by a registered management investment company, other than a small business investment company registered on Form N-5 (ss.ss. 239.24 and 274.5 of this chapter), to file reports with the Commission, not later than August 31 of each year, containing the registrant's proxy voting record for the most recent twelve-month period ended June 30, pursuant to section 30 of the Investment Company Act of 1940 and rule 30b1-4 thereunder (17

CFR 270.30b1-4). The Commission may use the information provided on Form N-PX in its regulatory, disclosure review, inspection, and policymaking roles.

A registrant is required to disclose the information specified by Form N-PX, and the Commission will make this information public. A registrant is not required to respond to the collection of information contained in Form N-PX unless the Form displays a currently valid Office of Management and Budget ("OMB") control number. Please direct comments concerning the accuracy of the information collection burden estimate and any suggestions for reducing the burden to the Secretary, Securities and Exchange Commission, 450 Fifth Street, NW, Washington, DC 20549-0609. The OMB has reviewed this collection of information under the clearance requirements of 44 U.S.C. ss. 3507.

ITEM 1. PROXY VOTING RECORD.

Disclose the following information for each matter relating to a portfolio security considered at any shareholder
meeting held during the period covered by the report and with respect to which the registrant was entitled to vote:

(a) The name of the issuer of the portfolio security; (b) The exchange ticker symbol of the portfolio security; (c) The Council on Uniform Securities Identification Procedures ("CUSIP") number for the portfolio security; (d) The shareholder meeting date; (e) A brief identification of the matter voted on; (f) Whether the matter was proposed by the issuer or by a security holder; Whether the registrant cast its vote on the matter; (g) (h) How the registrant cast its vote (e.g., for or against proposal, or abstain; for or withhold regarding election of directors); and (i) Whether the registrant cast its vote for or against management.

SIGNATURES

[See General Instruction F]

Pursuant to the requirements of the Investment Company Act of 1940, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

(Registrant) Kayne Anderson MLP Investment Company

By (Signature and Title)* /s/ Kevin S. McCarthy

Kevin S. McCarthy,

Chairman of the Board of Directors,

Date August 10, 2010 President and Chief Executive Officer

^{*} Print the name and title of each signing officer under his or her signature.

Item 1 – Proxy Voting Record – Attached on behalf of Kayne Anderson MLP Investment Company

Proposed by Meeting (I)ssuer or Vote How For/Against Issuer Symbol CUSIP Date (S)hrhldr Cast? Voted Mgmt Matter: **CAPITAL PRODUCT** PARTNERS L.P. CPLP Y11082107 7/23/2009 ELECT: Ι YES FOR **FOR** ABEL RASTERHOFF Ι APPROVE: YES FOR AGAINST AMENDMENT TO THE COMPANY'S FIRST AMENDED AND RESTATED AGREEMENT OF **LIMITED PARTNERSHIP ESTABLISHING THAT** IN THE CASE OF ANY **MEETING OR** LIMITED PARTNERS OF THE COMPANY WHICH HAS BEEN ADJOURNED FOR A SECOND TIME DUE TO ABSENCE OF A **OUORUM DURING** THE FIRST TWO **MEETINGS ALL AS** MORE FULLY DESCRIBED IN THE PROXY STATEMENT **MAGELLAN MIDSTREAM** Ι YES FOR **FOR** PARTNERS, L.P. MMP 559080106 9/25/2009 APPROVE: THE AGREEMENT **RELATING TO** SIMPLIFICATION OF **CAPITAL** STRUCTURE, DATED AS OF MARCH 3, 2009, BY AND **AMONG MAGELLAN MIDSTREAM** PARTNERS, L.P.,

MAGELLAN GP, LLC., MMP'S GENERAL PARTNER, **MAGELLAN MIDSTREAM** HOLDINGS, L.P. AND **MAGELLAN MIDSTREAM** HOLDINGS GP, LLC, MGG'S GENERAL PARTNER, AS SUCH AGREEMENT MAY BE AMENDED FROM TIME TO TIME

APPROVE: Ι YES FOR **FOR** THE FIFTH

AMENDED AND **RESTATED**

AGREEMENT OF

LIMITED

PARTNERSHIP OF

MMP

APPROVE: I YES FOR **FOR**

Ι

YES FOR

ADJOURNMENT OF THE MMP SPECIAL MEETING TO A LATER DATE, IF NECESSARY, TO **SOLICIT ADDITIONAL** PROXIES IN THE **EVENT THAT THERE**

ARE INSUFFICIENT

VOTES IN FAVOR OF

ANY OF THE

FOREGOING

PROPOSALS

MAGELLAN MIDSTREAM

HOLDINGS, L.P. MGG 55907R108 9/25/2009 APPROVE:

AGREEMENT RELATING TO

SIMPLIFICATION OF

CAPITAL

STRUCTURE BY AND

AMONG MAGELLAN

MIDSTREAM

PARTNERS, L.P.,

FOR

MAGELLAN GP, LLC.,
MMP'S GENERAL
PARTNER,
MAGELLAN
MIDSTREAM
HOLDINGS, L.P., AND
MAGELLAN
MIDSTREAM
HOLDINGS GP, LLC,
MGG'S GENERAL
PARTNER, AS SUCH
AGREEMENT MAY
BE AMENDED FROM
TIME TO TIME.

APPROVE: Ι YES FOR **FOR** (A) DIRECT MGG, AS THE SOLE MEMBER OF MMP'S GENERAL PARTNER, TO **APPROVE** MMP'S AMENDED AND RESTATED AGREEMENT OF LIMITED PARTNERSHIP & ALL **OTHER MATTERS UNDER SIMPLIFICATION** AGREEMENT THAT, PURSUANT TO THE LIMITED LIABILITY **COMPANY** AGREEMENT OF MMP'S GENERAL PARTNER, REQUIRE THE APPROVAL OF MGG; (B) DIRECT MMP'S GENERAL PARTNER TO **IMPLEMENT THE MATTERS ABOVE**

Ι

I

Ι

APPROVE:

APPROVE:

APPROVE:

CONTRIBUTIONS

THE LIQUIDATION

THE

YES FOR

YES FOR

YES FOR

FOR

FOR

FOR

THE ADJOURNMENT

OF THE MGG

SPECIAL MEETING

TO A LATER DATE, IF

NECESSARY, TO

SOLICIT

ADDITIONAL

PROXIES IN THE

EVENT THAT THERE

ARE INSUFFICIENT

VOTES IN FAVOR OF

ANY OF THE

FOREGOING

PROPOSALS.

ALLIANCE

RESOURCE

PARTNERS, L.P. ARLP 01877R108 10/23/2009 APPROVE:

I YES FOR FOR

YES FOR

FOR

AMENDMENT TO

THE 2000

LONG-TERM

INCENTIVE PLAN OF

ALLIANCE COAL,

LLC, THE

OPERATING

SUBSIDIARY OF

ALLIANCE

RESOURCE

PARTNERS, L.P.

TEPPCO

PARTNERS, L.P. TPP 872384102 10/23/2009 APPROVE:

PPROVE:

I

AGREEMENT AND PLAN OF MERGER

DATED AS OF JUNE

28, 2009 BY AND

AMONG ENTERPRISE

PRODUCTS

PARTNERS, L.P.,

ENTERPRISE

PRODUCTS GP, LLC,

ENTERPRISE SUB B

LLC, TEPPCO

PARTNERS, L.P. AND

TEXAS EASTERN

PRODUCTS PIPELINE

COMPANY, LLC, AS

IT MAY BE

AMENDED FROM

TIME TO TIME AND

THE MERGER

CONTEMPLATED BY THE MERGER AGREEMENT

NAVIOS MARITIME

PARTNERS L.P. NMM Y62267102 12/16/2009 ELECT: I YES FOR FOR

ROBERT PIEROT JOHN KARAKADAS

RATIFY: I YES FOR FOR