

Kayne Anderson MLP Investment CO  
Form N-23C-2  
May 16, 2008

Securities and Exchange Commission  
Washington, DC 20549  
Rule 23c-2 Notice of Intention to  
Redeem Securities  
of  
Kayne Anderson MLP Investment Company  
1800 Avenue of the Stars, Second Floor  
Los Angeles, CA 90067  
under the  
Investment Company Act of 1940  
Securities Act File No. 333-140488  
Investment Company Act File No. 811-21593

(1) Title of the class of securities of Kayne Anderson MLP Investment Company (the Company ) to be redeemed:

Auction Rate Senior Notes, Series A, in \$25,000 denominations (CUSIP 486606AA4) (the Series A Notes ).  
Auction Rate Senior Notes, Series B, in \$25,000 denominations (CUSIP 486606AB2) (the Series B Notes ).  
Auction Rate Senior Notes, Series C, in \$25,000 denominations (CUSIP 486606AC0) (the Series C Notes ).  
Auction Rate Senior Notes, Series E, in \$25,000 denominations (CUSIP 486606AD8) (the Series E Notes ).  
Auction Rate Senior Notes, Series F, in \$25,000 denominations (CUSIP 486606AE6) (the Series F Notes ).

(2) Date on which the securities are to be called or redeemed:

The Series A Notes will be redeemed on July 8, 2008.

The Series B Notes will be redeemed on July 10, 2008.

The Series C Notes will be redeemed on July 14, 2008.

The Series E Notes will be redeemed on July 7, 2008.

The Series F Notes will be redeemed on July 9, 2008.

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(3) Applicable provisions of the governing instrument pursuant to which the securities are to be redeemed:

The Series A Notes are to be redeemed pursuant to Section 2.03(a)(i) of the Supplemental Indenture of Trust, dated as of March 28, 2005, by and between the Company and The Bank of New York Trust Company, N.A.

The Series B Notes are to be redeemed pursuant to Section 2.03(a)(i) of the Supplemental Indenture of Trust, dated as of March 28, 2005, by and between the Company and The Bank of New York Trust Company, N.A.

The Series C Notes are to be redeemed pursuant to Section 2.03(a)(i) of the Supplemental Indenture of Trust, dated as of March 28, 2005, by and between the Company and The Bank of New York Trust Company, N.A.

The Series E Notes are to be redeemed pursuant to Section 2.03(a)(i) of the Second Supplemental Indenture of Trust, dated as of December 14, 2005, by and between the Company and The Bank of New York Trust Company, N.A.

The Series F Notes are to be redeemed pursuant to Section 2.03(a)(i) of the Third Supplemental Indenture of Trust, dated as of June 26, 2007, by and between the Company and The Bank of New York Trust Company, N.A.

(4) The principal amount or number of shares and the basis upon which the securities to be redeemed are to be selected:

The Company intends to redeem all of its outstanding Series A Notes, representing an aggregate principal amount of \$85,000,000.

The Company intends to redeem all of its outstanding Series B Notes, representing an aggregate principal amount of \$85,000,000.

The Company intends to redeem all of its outstanding Series C Notes, representing an aggregate principal amount of \$90,000,000.

The Company intends to redeem all of its outstanding Series E Notes, representing an aggregate principal amount of \$60,000,000.

The Company intends to redeem all of its outstanding Series F Notes, representing an aggregate principal amount of \$185,000,000.

SIGNATURE

Pursuant to the requirement of Rule 23c-2 under the Investment Company Act of 1940, the Company has duly caused this Notice of Intention to Redeem Securities to be signed on its behalf by the undersigned on this 16th day of May, 2008.

KAYNE ANDERSON MLP INVESTMENT  
COMPANY

By: /s/ Kevin McCarthy  
Name: Kevin McCarthy  
Title: Chief Executive Officer and  
President

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