

Kayne Anderson MLP Investment CO
 Form 4
 September 12, 2006

FORM 4 UNITED STATES SECURITIES AND EXCHANGE COMMISSION
 Washington, D.C. 20549

OMB APPROVAL

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STATEMENT OF CHANGES IN BENEFICIAL OWNERSHIP OF SECURITIES

Filed pursuant to Section 16(a) of the Securities Exchange Act of 1934, Section 17(a) of the Public Utility Holding Company Act of 1935 or Section 30(h) of the Investment Company Act of 1940

(Print or Type Responses)

1. Name and Address of Reporting Person *
 KAYNE RICHARD A

2. Issuer Name and Ticker or Trading Symbol
 Kayne Anderson MLP Investment CO [KYN]

5. Relationship of Reporting Person(s) to Issuer
 (Check all applicable)

(Last) (First) (Middle)
 1800 AVENUE OF THE STARS, SECOND FLOOR
 (Street)

3. Date of Earliest Transaction (Month/Day/Year)
 09/06/2006

____ Director
 ____ Officer (give title below) 10% Owner
 ____ Other (specify below)
 CEO of Investment Adviser

LOS ANGELES, CA 90067

4. If Amendment, Date Original Filed(Month/Day/Year)

6. Individual or Joint/Group Filing(Check Applicable Line)
 Form filed by One Reporting Person
 Form filed by More than One Reporting Person

(City) (State) (Zip)

Table I - Non-Derivative Securities Acquired, Disposed of, or Beneficially Owned

1. Title of Security (Instr. 3)	2. Transaction Date (Month/Day/Year)	2A. Deemed Execution Date, if any (Month/Day/Year)	3. Transaction Code (Instr. 8)	4. Securities Acquired (A) or Disposed of (D) (Instr. 3, 4 and 5)	5. Amount of Securities Beneficially Owned Following Reported Transaction(s) (Instr. 3 and 4)	6. Ownership Form: Direct (D) or Indirect (I) (Instr. 4)	7. Nature of Ownership (Instr. 4)
				Code V	Amount	(A) or (D)	Price
Common Stock	09/06/2006		S		300	D	\$ 27.85
Common Stock	09/06/2006		G		728	D	\$ 0
							214,700
							213,972

Reminder: Report on a separate line for each class of securities beneficially owned directly or indirectly.

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SEC 1474 (9-02)

