MAIRS & POWER INC Form SC 13G/A February 08, 2011

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

SCHEDULE 13G

Under the Securities Exchange Act of 1934 (Amendment No. 6)*

MTS Systems Corporation

(Name of Issuer)

Common Stock

(Title of Class of Securities)

553777103

(CUSIP Number)

December 31, 2010

(Date of Event Which Requires Filing of this Statement)

Check the appropriate box to designate the rule pursuant to which this Schedule is filed:

- ý Rule 13d-1(b)
- o Rule 13d-1(c)
- o Rule 13d-1(d)

The information required in the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, see the Notes).

^{*}The remainder of this cover page shall be filled out for a reporting person's initial filing on this form with respect to the subject class of securities, and for any subsequent amendment containing information which would alter the disclosures provided in a prior cover page.

2

CUSIP No. 553777103

1.	Names of Reporting Persons. I.R.S. Identification Nos. of above persons (entities only) Mairs and Power, Inc. 41-0844499			
2.	Check the Appropri (a) (b)	ate Box if a Member of a o o	Group (See Instructions)	
3.	SEC Use Only			
4.	Citizenship or Place of Organization St. Paul, Minnesota USA			
	5.		Sole Voting Power 1,418,200	
Number of Shares Beneficially Owned by	6.		Shared Voting Power 0	
Each Reporting Person With	7.		Sole Dispositive Power 1,852,972	
	8.		Shared Dispositive Power 0	
9.	Aggregate Amount Beneficially Owned by Each Reporting Person 1,852,972			
10.	Check if the Aggregate Amount in Row (9) Excludes Certain Shares (See Instructions) o N/A			
11.	Percent of Class Represented by Amount in Row (9) 12.1%			
12.	Type of Reporting Person (See Instructions) IA			

Item 1.				
	(a)	Name of Issuer		
		MTS Systems Corporation		
	(b)	Address of Issuer s Principal Executive Offices		
		14000 Technology Drive	, Eden Prairie, MN 55344-2290	
Item 2.				
Item 2.	(a)	Name of Person Filing		
	(u)	Mairs and Power, Inc.		
	(b)		iness Office or, if none, Residence	
	(0)	332 Minnesota Street, W-1520 First National Bank Bldg., St. Paul, MN 55101		
	(c)	Citizenship		
	(0)	Minnesota Corporation		
	(d)	Title of Class of Securities		
		Common Stock		
	(e)	CUSIP Number		
	· /	553777103		
Item 3.	If this statemen	at is filed numeriant to \$\$240 i	12d 1(b) on 240 12d 2(b) on (c) about whether the newson filing is a	
item 5.	(a)	=	13d-1(b) or 240.13d-2(b) or (c), check whether the person filing is a: Broker or dealer registered under section 15 of the Act (15 U.S.C. 78o).	
	(a) (b)	0 0	Bank as defined in section 3(a)(6) of the Act (15 U.S.C. 780).	
	(c)	0	Insurance company as defined in section 3(a)(19) of the Act (15 U.S.C. 78c).	
	(d)	0	Investment company registered under section 8 of the Investment Company	
	(u)	O	Act of 1940 (15 U.S.C 80a-8).	
	(e)	ý	An investment adviser in accordance with §240.13d-1(b)(1)(ii)(E);	
	(f)	0	An employee benefit plan or endowment fund in accordance with	
	(1)	<u> </u>	\$240.13d-1(b)(1)(ii)(F);	
	(g)	0	A parent holding company or control person in accordance with §	
	(6)		240.13d-1(b)(1)(ii)(G);	
	(h)	0	A savings associations as defined in Section 3(b) of the Federal Deposit	
	. ,		Insurance Act (12 U.S.C. 1813);	
	(i)	0	A church plan that is excluded from the definition of an investment company	
	.,		under section 3(c)(14) of the Investment Company Act of 1940 (15 U.S.C.	
			80a-3);	
	(j)	O	A non-U.S. institution in accordance with § 240.13d 1(b)(1)(ii)(J);	
			Group, in accordance with § 240.13d 1(b)(1)(ii)(K). If filing as a non-U.S.	
	(k)	0	institution in accordance with § 240.13d 1(b)(1)(ii)(J), please specify the type	
			of institution:	

Item 4. Ownership

Provide the following information regarding the aggregate number and percentage of the class of securities of the issuer identified in Item 1.

(a) Amount beneficially owned:

1,852,972

(b) Percent of class:

12.1%

(c) Number of shares as to which the person has:

(i) Sole power to vote or to direct the vote

1,418,200

(ii) Shared power to vote or to direct the vote

N/A

(iii) Sole power to dispose or to direct the disposition of

1,852,972

(iv) Shared power to dispose or to direct the disposition of

N/A

Item 5. Ownership of Five Percent or Less of a Class

If this statement is being filed to report the fact that as of the date hereof the reporting person has ceased to be the beneficial owner of more than five percent of the class of securities, check the following o.

Item 6. Ownership of More than Five Percent on Behalf of Another Person

Various persons have the right to receive or the power to direct the receipt of dividends from, or the proceeds from the sale of, the Common Stock of MTS Systems Corporation. The interest of one person, Mairs and Power Growth Fund, Inc., an investment company registered under the Investment Company Act of 1940, in the Common Stock of MTS Systems Corporation, amounted to 1,200,000 shares or 7.8% of the total outstanding Common Stock at December 31, 2010.

Item 7. Identification and Classification of the Subsidiary Which Acquired the Security Being Reported on By the Parent

Holding Company or Control Person

N/A

Item 8. Identification and Classification of Members of the Group

N/A

Item 9. Notice of Dissolution of Group

N/A

4

Item 10. Certification

By signing below I certify that, to the best of my knowledge and belief, the securities referred to above were acquired and are held in the ordinary course of business and were not acquired and are not held for the purpose of or with the effect of changing or influencing the control of the issuer of the securities and were not acquired and are not held in connection with or as a participant in any transaction having that purpose or effect.

Signature

After reasonable inquiry and to the best of my knowledge and belief, I certify that the information set forth in this statement is true, complete and correct.

Mairs and Power, Inc.

February 8, 2011 Date

/s/ Jon A. Theobald Signature

Jon A. Theobald / President Name/Title

5

Signature 5