

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

SEC File Number
0-11412

FORM 12b-25/A

CUSIP Number

NOTIFICATION OF LATE FILING

(Check One): Form 10-K Form 20-F Form 11-K
 Form 10-Q Form N-SAR Form N-CSR

For Period Ended: September 30, 2004

Transition Report on Form 10-K
 Transition Report on Form 20-F
 Transition Report on Form 11-K
 Transition Report on Form 10-Q
 Transition Report on Form N-SAR

For the Transition Period Ended:

Read Instruction Sheet Before Preparing Form. Please Print or Type.

Nothing in this form shall be construed to imply that the Commission has verified any information contained herein.

If the notification relates to a portion of the filing checked above, identify the Item(s) to which the notification relates:

N/A

PART I — REGISTRANT INFORMATION

Amtech Systems, Inc.

Full Name of Registrant

N/A

Former Name if Applicable

131 S. Clark Drive

Address of Principal Executive Office (Street and Number)

Tempe, AZ 85281

City, State and Zip Code

PART II — RULES 12b-25(b) AND (c)

If the subject report could not be filed without unreasonable effort or expense and the registrant seeks relief pursuant to Rule 12b-25(b), the following should be completed. (Check box if appropriate).

(a) The reasons described in reasonable detail in Part III of this form could not be eliminated without unreasonable effort or expense;

- (b) The subject annual report, semi-annual report, transition report on Form 10-K, Form 20-F, 11-K or Form N-SAR or Form N-CSR, or portion thereof, will be filed on or before the fifteenth calendar day following the prescribed due date; or the subject quarterly report or transition report on Form 10-Q, or portion thereof, will be filed on or before the fifth calendar day following the prescribed due date; and
- (c) The accountant's statement or other exhibit required by Rule 12b-25(c) has been attached if applicable.

PART III — NARRATIVE

State below in reasonable detail the reasons why Forms 10-K, 11-K, 20-F, 10-Q, N-SAR, N-CSR or the transition report or portion thereof, could not be filed within the prescribed time period.

The Company was unable to obtain the information necessary to complete the preparation of the Company's financial statements for the fiscal year ended September 30, 2004 and the audit of such financial statements by the Company's auditors in time for filing. Such information is required in order to prepare a complete filing. As a result of this delay, the Company is unable to file its annual report on Form 10-K within the prescribed time period without unreasonable effort or expense. The Company expects to file the Form 10-K within the extension period.

PART IV — OTHER INFORMATION

- (1) Name and telephone number of person to contact in regard to this notification:

Robert Hass

(Name)

480 967-5146

(Area Code) (Telephone Number)

- (2) Have all other periodic reports required under Section 13 or 15(d) of the Securities Exchange Act of 1934 or Section 30 of the Investment Company Act of 1940 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) been filed? If answer is no, identify report(s).

Yes No

- (3) Is it anticipated that any significant change in results of operations from the corresponding period for the last fiscal year will be reflected by the earnings statements to be included in the subject report or portion thereof?

Yes No

If so, attach an explanation of the anticipated change, both narratively and quantitatively, and, if appropriate, state the reasons why a reasonable estimate of the results cannot be made.

We expect to report revenues for fiscal 2004 that are approximately 1% lower than in 2003. However, as a result of (i) the write-down of inventories, (ii) an increase in deferred profits, (iii) anticipated losses on the contract under which we are developing a new small batch vertical furnace for a new market and (iv) increased general administrative costs, resulting primarily from the change in exchange rates at which our Euro denominated expenses are translated and costs associated with expanded operations resulting from our acquisition of a significant business, we expect to report a before tax operating loss of approximately \$2 million in 2004, compared to a before tax operating loss of \$0.2 million in 2003.

Amtech Systems, Inc.

(Name of Registrant as Specified in Charter)

has caused this notification to be signed on its behalf by the undersigned thereunto duly authorized.

Date: 1/3/05

By /s/ Robert T. Hass

Robert T. Hass

Vice President-Finance and Chief Financial Officer

INSTRUCTION: The form may be signed by an executive officer of the registrant or by any other duly authorized representative. The name and title of the person signing the form shall be typed or printed beneath the signature. If the statement is signed on behalf of the registrant by an authorized representative (other than an executive officer), evidence of the representative's authority to sign on behalf of the registrant shall be filed with the form.

ATTENTION

Intentional misstatements or omissions of fact constitute Federal Criminal Violations (See 18 U.S.C. 1001).