

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of July 2004

TOWER SEMICONDUCTOR LTD.
(Translation of registrant's name into English)

P.O. Box 619, Migdal Haemek, Israel 23105
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F Form 40-F

Indicate by check mark whether the registrant by furnishing the information contained in this Form is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes No

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On July 13, 2004, the Registrant announced that it is moving forward on 0.13-micron technology with toolset purchase. A copy of the press release is attached hereto.

This Form 6-K is being incorporated by reference into all effective registration statements filed by us under the Securities Act of 1933.

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SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

TOWER SEMICONDUCTOR LTD.

Date: July 13, 2004

By: /s/ Tamar Cohen

Name: Tamar Cohen
Title: Corporate Secretary

TOWER SEMICONDUCTOR MOVES FORWARD ON 0.13-MICRON TECHNOLOGY
WITH TOOLSET PURCHASE

MIGDAL HAEMEK, Israel - July 13, 2004 - Tower Semiconductor Ltd. (NASDAQ: TSEM; TASE: TSEM) today announced that it expects to ramp production of 0.13-micron technology node in Fab 2 early next year. The company has ordered the first toolset to equip Fab 2 to manufacture next-generation devices.

"Tower is firmly on course for a timely migration to the 0.13-micron industry standard technology node," said Doron Simon, president of Tower USA. "We have proven silicon and stable yield performance at Motorola's fab and our team has begun transferring the technology to Tower. We are now qualifying initial IP's and are in discussions with lead customers for ramping this technology node at Tower's Fab 2."

The advanced-systems purchases include a 193nm scanner and additional tools, supporting all-copper process technology with the capability to manufacture 0.13-micron and below technology nodes.

Including the previously ordered tools to increase 0.18-micron production capacity for Fab 2 and an initial ramp of 0.13-micron capacity, Tower expects capital-equipment expenditures to be between \$150 million and \$200 million this year.

About Tower Semiconductor Ltd.

Tower Semiconductor Ltd. is a pure-play independent wafer foundry established in 1993. The company manufactures integrated circuits with geometries ranging from 1.0 to 0.18 microns; it also provides complementary manufacturing services and design support. In addition to digital CMOS process technology, Tower offers advanced non-volatile memory solutions, mixed-signal and CMOS image-sensor technologies. To provide world-class customer service, the company maintains two manufacturing facilities: Fab 1 has process technologies from 1.0 to 0.35 microns and can produce up to 16,000 150mm wafers per month. Fab 2 features 0.18-micron and below process technologies, including foundry-standard technology. When complete, Fab 2 is expected to offer full production capacity of 33,000 200mm wafers per month. The Tower Web site is located at www.towersemi.com.

Safe Harbor

This press release includes forward-looking statements, which are subject to risks and uncertainties. Actual results may vary from those projected or implied by such forward-looking statements. Potential risks and uncertainties include, without limitation, risks and uncertainties associated with: (i) the successful completion of the 0.13 micron process technology transfer (ii) market demand for 0.13 micron technology manufacturing services; (iii) final qualification of the 0.13 micron process (iv) timely and successful installation and qualification of 0.13 micron production equipment; A more complete discussion of risks and uncertainties that may affect the accuracy of forward-looking statements included in this press release or which may otherwise affect our business is included under the heading "Risk Factors" in our most recent Annual Report on Form 20-F and in our Form F-3, as amended, as were filed with the Securities and Exchange Commission and the Israel Securities Authority.

Agency Contact
Julie Lass
Loomis Group
512.328.8855
lassj@loomisgroup.com

Tower Contact
Michael Axelrod
Tower USA
408.330.6871
michaelax@towersemi.com

Investor Relations
Sheldon Lutch
Fusion IR
212.268.1816
sheldon@fusionir.com
