

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of September 2007

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

RAMAT GAVRIEL INDUSTRIAL PARK
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

On September 10, 2007, Tower Semiconductor announced that it signed and closed credit agreements for the execution of its capacity ramp-up plan for Fab2. Attached hereto is a copy of the press release.

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

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: September 10, 2007

By: /s/ Nati Somekh Gilboa

Nati Somekh Gilboa
Corporate Secretary

TOWER SEMICONDUCTOR SIGNS AND
CLOSES CREDIT AGREEMENTS FOR THE EXECUTION OF ITS
CAPACITY RAMP-UP PLAN FOR FAB2

DEFINITIVE AGREEMENTS SECURE \$60 MILLION OF CREDIT LINES

COMMENCES TO EXECUTE SIGNIFICANT CAPACITY EXPANSION PLAN IN ADVANCED
TECHNOLOGIES IN A COST EFFECTIVE MANNER

MIGDAL HAEMEK, Israel - September 10, 2007 - Tower Semiconductor Ltd. (NASDAQ: TSEM; TASE: TSEM), a pure-play independent specialty foundry, today announced that it has closed definitive agreements with its lender banks, Bank Leumi and Bank Hapoalim, and with Israel Corporation, a major shareholder, to secure \$60 million of credit lines, comprised of \$30 million from the Banks and \$30 million from Israel Corporation. These definitive agreements are based on the terms of the previously announced letters of intent.

The credit lines, together with the, approximately, \$40 million that were raised in June 2007 through the issuance of long-term bonds, are to be used for the execution of the Company's ramp-up plan. This expansion plan will increase significantly Fab2 capacity beyond the current 24,000 wafers per month, primarily in advanced technologies, as was initially announced on July 16, 2007.

"Fab2 continues to run at a utilization rate of higher than 90%, with customer forecasted demand exceeding the current capacity level", said Russell Ellwanger, chief executive officer of Tower Semiconductor. "In order to meet this demand, we have commenced the execution of the ramp-up plan which, when completed, will further increase the potential of our sales, cash flow and operational results, with a fast pay-back-period and a high rate of return-on-investment (ROI). We have placed purchase orders for a portion of the manufacturing tools and are in the final stages of negotiation with several equipment suppliers for the complete current set of tools for this stage of the expansion plan. The tools are predominantly used equipment originating from certain integrated device manufacturers (IDMs), such as AMD and Intel 200 millimeter copper manufacturing facilities. This enables us to purchase the manufacturing tools at low prices, as compared to purchasing them from the original equipment manufacturers. We expect the equipment to roll into Fab2 during the coming few quarters, with the first tools arriving next month".

ABOUT TOWER SEMICONDUCTOR LTD.

Tower Semiconductor Ltd. is a pure-play independent specialty wafer foundry established in 1993. The company manufactures integrated circuits with geometries ranging from 1.0 to 0.13-micron; it also provides complementary technical services and design support. In addition to digital CMOS process technology, Tower offers advanced non-volatile memory solutions, mixed-signal & RF-CMOS, and CMOS image-sensor technologies. To provide world-class customer service, the company maintains two manufacturing facilities, each with standard and specialized process technology processes: Fab 1 ranging from 1.0 to 0.35 and Fab 2 featuring 0.18 and 0.13-micron. Tower's web site is located at <http://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 completion of the equipment installation, technology transfer and ramp-up of production in Fab 2 and raising the funds therefore, (ii) the cyclical nature of the semiconductor industry and the resulting periodic overcapacity, fluctuations in operating results, future average selling price erosion that may be more severe than our expectations, (iii) having sufficient funds to operate the company in the short-term and the funding needs for its ramp-up plan, (iv) operating our facilities at satisfactory utilization rates which is critical in order to defray the high level of fixed costs associated with operating a foundry and reduce our losses, (v) our ability to satisfy the covenants stipulated in our credit facility agreement, as amended, (vi) our ability to capitalize on increases in demand for foundry services, (vii) meeting the conditions to receive Israeli government grants and tax benefits approved for Fab 2 and obtaining the approval of the Israeli Investment Center for a new expansion program, (viii) attracting additional customers, (ix) not receiving orders from our wafer partners and customers, (x) failing to maintain and develop our technology processes and services, (xi) competing effectively, (xii) our large amount of debt and our ability to repay our short-term and long-term debt on a timely basis, (xiii) achieving acceptable device yields, product performance and delivery times, (xiv) the timely development, internal qualification and customer acceptance of new processes and products, (xv) the entering into and the consummation of agreements to purchase the equipment to increase Fab2 capacity and the timely and successful installation thereof, and (xvi) and business interruption due to terror attacks, earthquakes, other acts of God and the security situation in Israel.

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 filings on Forms 20-F, F-3 and 6-K, as were filed with the Securities and Exchange Commission and the Israel Securities Authority. Future results may differ materially from those previously reported. We do not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

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