# NOVELLUS INCREASES STOCK REPURCHASE PROGRAM

SAN JOSE, Calif., Sept. 20, 2004--Novellus Systems Inc. (Nasdaq NM: NVLS), the productivity and innovation leader in advanced deposition, surface preparation and chemical mechanical planarization processes for the global semiconductor industry, today announced that its board of directors has approved an increase to Novellus' previously authorized stock repurchase program. The terms of the expanded program will permit Novellus to repurchase up to an aggregate of approximately $1.1 billion of its outstanding common stock through September 14, 2009. This represents an increase of $1 billion to the approximately $100 million remaining under the previously authorized program.

"We believe that our common stock repurchase program is an excellent use of capital to increase shareholder value," said Richard S. Hill, chairman and chief executive officer of Novellus.

Novellus is authorized to repurchase shares from time to time in the open market, through block trades or otherwise. The repurchases may be commenced or suspended at any time or from time to time without prior notice depending on prevailing market conditions and other factors. As of September 15, 2004, Novellus had approximately 139,961,463 shares outstanding. Since February 2004, Novellus has repurchased a total of approximately 14.4 million shares.

"Safe Harbor" Statement Under the Private Securities Litigation Reform Act of 1995:

The statement regarding Novellus' belief that its stock repurchase program will increase shareholder value, as well as other matters discussed in this news release that do not concern purely historical data, are forward-looking statements. The forward-looking statements involve risks and uncertainties, including, but not limited to, Novellus' failure to take advantage of other more profitable investment opportunities, and other risks and uncertainties discussed in our filings with the Securities and Exchange Commission (SEC). Actual results could differ materially. Novellus assumes no obligation to update this information. For more details relating to risks and uncertainties that could cause actual results to differ from those anticipated in Novellus' forward-looking statements, and risks to Novellus' business in general, please refer to Novellus' SEC filings, including our Annual Report on Form 10-K for the year ended December 31, 2003, our Quarterly Reports on Form 10-Q for the quarters ended March 27, 2004 and June 26, 2004 and our Current Reports on Form 8-K.

About Novellus:

Novellus Systems, Inc., an S&P 500 company, manufactures, markets and services advanced deposition, surface preparation and chemical mechanical planarization equipment for today's advanced integrated circuits. Our products are designed for high-volume production of advanced, leading-edge semiconductor devices at the lowest possible cost. Headquartered in San Jose, Calif., with subsidiaries throughout the United States, as well as in the United Kingdom, France, Germany, the Netherlands, Ireland, Italy, Israel, India, China, Japan, Korea, Malaysia, Singapore and Taiwan, we are a publicly traded company on the Nasdaq stock exchange (Nasdaq: NVLS) and a component of the Nasdaq-100 Index®. Additional information about Novellus is available on our home page at www.novellus.com

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