



Northstar Neuroscience, Inc. Announces Approval of Plan of Liquidation and Dissolution by Board of Directors

SEATTLE—(GLOBE NEWSWIRE)—January 5, 2009—Northstar Neuroscience, Inc., (NASDAQ:NSTR), a medical device company developing therapies for the treatment of major depressive disorder, today announced that its Board of Directors has determined, in its best business judgment after consideration of potential strategic alternatives, that it is in the best interests of the Company and its shareholders to liquidate the Company's assets and to dissolve the Company. The Company's Board of Directors has approved a Plan of Complete Liquidation and Dissolution of the Company (the "Plan"), subject to shareholder approval. The Company intends to hold a special meeting of shareholders to seek approval of the Plan and will file related proxy materials with the Securities and Exchange Commission ("SEC") in the near future. Prior to the special meeting the Company will reduce its headcount to a limited number of employees who will assist in the termination of operations.

The Plan contemplates an orderly wind down of the Company's business and operations. If the Company's shareholders approve the Plan, the Company intends to file articles of dissolution, satisfy or resolve its remaining liabilities and obligations, including but not limited to contingent liabilities and claims, ongoing clinical trial obligations, lease obligations, severance for terminated employees, and costs associated with the liquidation and dissolution, and make distributions to its shareholders of cash available for distribution, subject to applicable legal requirements. Following shareholder approval of the Plan and the filing of articles of dissolution, the Company would delist its common stock from NASDAQ.

IMPORTANT ADDITIONAL INFORMATION WILL BE FILED WITH THE SEC.

This press release is for informational purposes only. It is not a solicitation of a proxy. In connection with the Plan, the Company intends to file with the Securities and Exchange Commission a proxy statement and other relevant materials. **THE COMPANY'S SHAREHOLDERS ARE URGED TO READ THE PROXY STATEMENT AND THE OTHER RELEVANT MATERIALS WHEN THEY BECOME AVAILABLE BECAUSE THEY WILL CONTAIN IMPORTANT INFORMATION ABOUT THE COMPANY AND THE PLAN.** Shareholders may obtain a free copy of the proxy statement and the other relevant materials (when they become available), and any other documents filed by the Company with the SEC, at the SEC's web site at <http://www.sec.gov>. In addition, the Company will mail a copy of the definitive proxy statement to shareholders of record on the record date when it becomes available. A free copy of the proxy statement, when it becomes available, and other documents filed with the SEC by the Company may also be obtained by directing a written request to: Northstar Neuroscience, Inc., Attn: Secretary, 2401 Fourth Avenue, Suite 300, Seattle, WA 98121, or accessing the "Investor Relations" section of the Company's website at <http://www.northstarneuro.com>. Shareholders are urged to read the proxy statement and the other relevant materials when they become available before making any voting or investment decision with respect to the Plan.

About Northstar Neuroscience

Northstar Neuroscience is a medical device company focused on developing neuromodulation therapies to treat neurological diseases and disorders. Northstar's proprietary Renova(tm) Cortical Stimulation System is an investigational device that delivers targeted electrical stimulation to the outer surface of the brain — the cerebral cortex. For more information, visit www.northstarneuro.com.

This release contains forward-looking statements that involve risks and uncertainties concerning Northstar's proposed liquidation and dissolution. Actual results may differ materially from the results predicted. We believe that these potential risks and uncertainties include the possibility that dissolution and liquidation may not be approved by the shareholders or may be delayed, and that distributions to shareholders may take several years to complete. In addition, no assurance can be given as to the amount of cash actually to be distributed to the shareholders. Statements in this release should be evaluated in light of these important factors. More information about these and other important factors that could affect our business and financial results is included in our quarterly report on Form 10-Q, filed with the SEC on November 7, 2008, under the caption "Risk Factors."

CONTACT:

Investors:

Northstar Neuroscience, Inc.

Brian Dow, 206-902-1997

Vice President of Finance and CFO

ir@northstarneuro.com

or

Westwicke Partners

Mark Klausner, 410-321-9651

mark.klausner@westwickepartners.com

or

Media:

Schwartz Communications

Helen Shik, 781-684-0770

northstar@schwartz-pr.com

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