

BOVIE MEDICAL CORPORATION

PROXY

PROXY FOR THE ANNUAL MEETING OF STOCKHOLDERS TO BE HELD ON OCTOBER 18, 2011. THIS PROXY IS SOLICITED ON BEHALF OF THE BOARD OF DIRECTORS

The undersigned hereby acknowledges receipt of Notice of Annual Meeting of Stockholders and Proxy Statement of Bovie Medical Corporation in connection with the 2010 Annual Meeting to be held on October 18, 2011, and appoints Andrew Makrides and George W. Kromer, Jr., or either of them, proxy with power of substitution, for and in the name of the undersigned, and hereby authorizes each or either of them to represent and to vote, all the shares of common stock of Bovie Medical Corporation, a Delaware corporation ("Company"), that the undersigned would be entitled to vote at our Annual Meeting of Stockholders ("Annual Meeting") on October 18, 2011 and at any adjournments thereof, upon the matters set forth in the Notice of Annual Meeting, hereby revoking any proxy heretofore given. The proxy holder appointed hereby is further authorized to vote in his discretion upon such other business as may properly come before the Annual Meeting. This proxy will be voted as specified. **If no direction is made, this proxy will be voted in favor of all proposals.**

THE BOARD RECOMMENDS A VOTE "FOR" EACH NOMINEE LISTED ON PROPOSAL 1, "FOR" PROPOSAL 2 AND "FOR" PROPSOAL 3.

**[X] Please mark your votes
as in this example using
dark ink only.**

1. The election of the following nominees to the Company's Board of Directors to serve until the 2011 Annual Meeting of Shareholders: Andrew Makrides, J. Robert Saron, George Kromer, Michael Norman, August Lentricchia, Steven MacLaren, Michael Geraghty, Lawrence J. Waldman and Gregory Konesky.

FOR]
all nominees
(except as marked
to the contrary below)

WITHHOLD]
AUTHORITY
to vote for all
nominees listed above

FOR ALL EXCEPT]

Andrew Makrides]
J. Robert Saron]
George Kromer]
Michael Norman]
August Lentricchia]
Steven MacLaren]
Michael Geraghty]
Lawrence J. Waldman]
Gregory Konesky]

INSTRUCTION: To withhold authority to vote for any individual nominee(s), mark "FOR ALL EXCEPT" and check the box next to each nominee you wish to withhold authority.

2. The approval of the 2011 Share Incentive Plan.

FOR	AGAINST	ABSTAIN
[]	[]	[]

3. The ratification of the appointment of Kingery & Crouse PA as the Company's independent public accountants for the year ending December 31, 2011.

FOR	AGAINST	ABSTAIN
[]	[]	[]

4. In their discretion, the proxyholders are authorized to vote upon such other business as may properly come before the meeting or any adjournment thereof, all as set out in the Notice and Proxy Statement relating to the Annual Meeting, receipt of which are hereby acknowledged.

Please sign exactly as your name appears and return this proxy card immediately in the enclosed stamped self-addressed envelope.

Signature(s) _____

Signature _____

Dated: _____

NOTE: Please mark, date and sign exactly as name(s) appear on this proxy and return the proxy card promptly using the enclosed envelope. If the signer is a corporation, please sign full corporate name by duly authorized officer, giving full title as such. Executors, administrators, attorneys, trustees, or guardians should state full title or capacity. Joint owners should each sign. If signer is a partnership, please sign in partnership name by authorized person.