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PLC Medical Systems to Demonstrate RenalGuard(R) at TCT 2009, Building on Success at ESC 2009

Interim Results of MYTHOS Trial to be Presented for the First Time in the U.S.

FRANKLIN, Mass., Sept. 21 /PRNewswire-FirstCall/ -- PLC Systems Inc. (OTC Bulletin Board: PLCSF), a company focused on innovative cardiac and vascular medical device-based technologies, today announced that it will demonstrate its RenalGuard System(TM) at Transcatheter Cardiovascular Therapeutics (TCT) 2009, sponsored by the Cardiovascular Research Foundation, September 21 - 25, 2009, in San Francisco, California. More than 11,000 clinicians and professionals are expected to attend this event.

Dr. Giancarlo Marenzi, Chief, Intensive Cardiac Care Unit, Centro Cardiologico Monzino-University of Milan (CCM), will present interim results of the MYTHOS investigator-sponsored clinical trial of RenalGuard(R) for the first time in the United States. These results were first presented at ESC 2009, the annual meeting of the European Society of Cardiology, in late August in Barcelona, Spain.

In the preliminary results presented at ESC, the trial had enrolled 90 chronic kidney disease (CKD) patients undergoing elective or urgent percutaneous coronary interventions (PCI). Approximately 14.9% of the patients in the control group were determined to have acquired contrast-induced nephropathy (CIN), whereas only 4.6% of those who were treated with RenalGuard acquired CIN. The MYTHOS trial anticipates enrolling a total of 120 patients, and is expected to be completed this year. More information about the trial is available at the company's website: *http://www.plcmed.com/Products-Clinical-Investigations2.asp*.

The MYTHOS data indicates that patients who were at high risk for renal failure, treated with RenalGuard while undergoing certain imaging procedures, acquired CIN at a significantly lower rate than those who were treated beforehand with overnight hydration. Acquiring CIN has been found to lead to a range of serious and potentially deadly outcomes in patients who already have compromised kidney function.

The investigators for the trial are Dr. Antonio L. Bartorelli, Director, Interventional Cardiology, CCM, and Professor of Cardiology, University of Milan, and Dr. Marenzi, two of the world's leading experts on CIN.

Dr. Bartorelli and Dr. Marenzi will be participating in a "Hot Topics" lunch session, on Friday, September 25, entitled "Chronic Kidney Disease and Contrast Nephropathy:

Implications for the PCI Patient." Dr. Marenzi will present "RenalGuard: A New Hydration Method," the first clinical presentation of the MYTHOS study in the U.S. In addition, a poster presentation of the results will be available during the poster session scheduled for Tuesday, September 22 between 8:00 AM - 10:00 PM.

Mark R. Tauscher, president and chief executive officer of PLC Systems, said, "We are extremely pleased that these very positive interim results of the MYTHOS clinical trial are now being presented in the U.S. to a wide range of clinicians and potential partners. These initial results provide strong evidence that RenalGuard could be highly effective in reducing the incidence of CIN in millions of high-risk patients around the world every year. We are also looking forward to Dr. Marenzi's presentation on his experience with RenalGuard, and hope it will help us build on our very successful attendance at ESC by attracting additional interest in our proprietary device."

"Contrast-induced nephropathy is a serious complication resulting from the use of contrast media for coronary and peripheral vascular diagnostic and interventional procedures in high-risk patients," stated Dr. Bartorelli. "These preliminary results indicate that furosemide-induced high urine output with maintenance of intravascular volume through matched hydration can be safely obtained with the RenalGuard System and reduces the risk of CIN in these at-risk patients undergoing imaging procedures."

The MYTHOS trial is a randomized clinical trial designed to provide an assessment of the potential benefits of induced diuresis with automated matched hydration therapy utilizing RenalGuard, compared to standard overnight hydration, in reducing the incidence of CIN in patients with baseline impairment in renal function undergoing cardiac catheterization procedures and percutaneous coronary interventions.

About PLC Systems Inc.

PLC Systems Inc. is a medical technology company specializing in innovative technologies for the cardiac and vascular markets. Headquartered in Franklin, Massachusetts, PLC pioneered the CO2 Heart Laser System, which cardiac surgeons use to perform CO2 transmyocardial revascularization (TMR) to alleviate symptoms of severe angina. PLC's newest product, RenalGuard, is approved for sale in the EU as a general fluid balancing device. Additional company information can be found at *www.plcmed.com*.

This press release contains "forward-looking" statements. For this purpose, any statements contained in this press release that relate to prospective events or developments are deemed to be forward-looking statements. Words such as "believes," "anticipates," "plans," "expects," "will" and similar expressions are intended to identify forward-looking statements. Our statements of our objectives are also forward-looking statements. While we may elect to update forward-looking statements in the future, we specifically disclaim any obligation to do so, even if our estimates change, and you should not rely on these forward-looking statements as representing our views as of any date subsequent to the date of this press release. Actual results could differ materially from those indicated by such forward-looking statements as a result of a variety of important factors, including that we may not receive necessary regulatory approvals to market our RenalGuard product or that such approvals may be withdrawn, we may be unable to raise sufficient funds in the future to implement our business plan and/or commence our

planned U.S. clinical trial for RenalGuard, the current clinical trials in Italy and the planned future U.S. clinical trial for RenalGuard may not be completed in a timely fashion, if at all, or, if these clinical trials are completed, they may not produce clinically significant or meaningful results or future results from clinical trials may differ from results to date, the RenalGuard product may not be commercially accepted, operational changes, competitive developments may affect the market for our products, regulatory approval requirements may affect the market for our products, and additional risk factors described in the "Forward Looking Statements" section of our Annual Report on Form 10-K for the year ended December 31, 2008, and our other SEC reports.

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Contact: Mary T. Conway
Conway Communications
617-244-9682
mtconway@att.net

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