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SONEX RESEARCH INC  
Form 8-K  
September 24, 2003

SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT  
Pursuant to Section 13 or 15(d) of the Securities  
Exchange Act of 1934

Date of Report (Date of earliest event reported): September 24, 2003

SONEX RESEARCH, INC.  
(Exact name of registrant as specified in Charter)

Maryland	0-14465	52-1188993
(State or other jurisdiction of incorporation)	(Commission file number)	(IRS employer identification no.)

23 Hudson Street, Annapolis, MD 21401  
(Address of principal executive offices)

(410) 266-5556  
(Registrant's telephone number, including area code)

N/A  
(Former name or former address, if changed since last report)

ITEM 5. - OTHER EVENTS AND REGULATION FD DISCLOSURE

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On September 24, 2003, the Registrant posted the following news announcement on its website ([www.sonexresearch.com](http://www.sonexresearch.com)):

### SONEX HOLDS ANNUAL SHAREHOLDER MEETING; DISCUSSES PLANS FOR GROWTH

ANNAPOLIS, MARYLAND, September 24, 2003 - SONEX RESEARCH, INC. (OTC BB: SONX) reports that its 2003 Annual Meeting of Shareholders was held on September 16, 2003 at the Hampton Inn and Suites Annapolis to re-elect directors and to report on the latest developments at the Company.

Shareholders were informed of progress on current technology development and demonstration contracts with the U.S. Government and strategic initiatives now taking shape at Sonex, particularly with respect to plans for increasing the Company's profile within the Department of Defense (DoD) for Sonex engine technology for use in unmanned aerial vehicles (UAVs), a field that is receiving increased attention within DoD.

Management also reported that Sonex has expanded its marketing and commercialization capabilities in 2003 by hiring specialized consultants to provide business advisory services in areas such as strategic alliances, federal marketing, and government procurement assistance. The Company is pursuing new opportunities for revenue as development work continues on current government-funded engine projects.

Also at the meeting, the holders of the Company's Preferred Stock re-elected Mr. Lawrence H. Hyde to serve as a Preferred Stock Director to serve a term ending at the Annual Meeting in 2006. There were no Common Stock directors up for re-election, nor were there any other Common Stock proposals offered by the Board of Directors or presented by any shareholder.

The following are highlights of presentations made, and responses to questions from the audience, by members of Sonex management and key consultants to the Company.

#### Overview - An Evolving, Growing Company

George E. Ponticas, Sonex Chief Financial Officer and Secretary, provided a brief overview of the changes taking place at Sonex. Mr. Ponticas stated that over the past year, management has begun the process of transforming Sonex from a tiny company struggling to survive to an organization that intends to grow and thrive. He noted that while the Company is generating significant revenue and operating cash from government development and demonstration contracts, spending has increased to hire qualified technical personnel, improve computing, testing and design capabilities, and to supplement in-house personnel resources by engaging business and technical consultants to help the Company grow and generate new revenue sources.

Mr. Ponticas explained that Sonex has been able to maintain this course by carefully managing available funds through measures such as the continued voluntary deferral of salaries by Company officers, flexible payment arrangements with consultants, and the securing of short-term loans from shareholders. He also expressed the Company's gratitude to several local shareholders for supplying their time, skills, and funding, which assistance has been of great benefit to the Company.

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### Strategic Initiatives

An analysis of the Company's strategic initiatives was presented by Glenn R. Beach, President of the Annapolis business consulting firm Paradigm Technologies LLC, who has been serving as a senior advisor to the Sonex Board of Directors since January 2003. Mr. Beach stated that during 2003 the Company has focused on business re-positioning, strengthening its internal capabilities, and planning for growth. He said the Company currently is developing a marketing strategy targeting the most immediate business opportunity - the government sector, the success of which is expected to enhance marketing and commercialization efforts with industry.

With funding from the Department of Energy (DOE) and the Defense Advanced Research Projects Agency (DARPA), Sonex is now developing piston designs for an automotive diesel engine application and a kerosene-based "heavy" fuel engine (HFE) for potential use in intermediate sized UAVs. Mr. Beach elaborated on the Company's initiatives within other parts of the DoD in response to a current directive requiring engines used in UAVs and other military applications for which gasoline storage and use are undesirable, to operate on less volatile heavy fuels to reduce the hazard and logistics burden associated with gasoline. He said Sonex is seeking to capitalize on its previous achievements in converting several sizes of small, commercially available, lightweight, gasoline engines for use in UAVs to start and operate on heavy fuels.

In particular, Mr. Beach spoke of an effort undertaken by Sonex during the last few weeks to promote the SCS process as an enabling factor for heavy fuel conversions, thereby creating a U.S.-based core defense systems capability. He said Sonex hopes to become a key DoD resource for HFEs. He stated that the Company is in discussions with the military on this topic and anticipates the award of new contracts in the near future.

As a potential new opportunity, Mr. Beach cited a recent HFE conversion effort started by Sonex under a subcontract from a large DoD prime contractor, Science Applications International Corporation (SAIC). Under this effort begun in late 2002, Sonex and SAIC selected a candidate, pre-production, gasoline engine for evaluation of its potential for SCS conversion to start and operate on heavy fuels for use in a UAV weapon system. DoD funding to SAIC for the HFE development, which had included a subcontract to a competing firm to develop a rotary HFE, was suspended during 2003. Now Sonex seeks to obtain the necessary funding from DoD to continue development of this HFE, and others, for use in intermediate size UAVs for varied missions.

To assist with federal marketing and commercialization services, earlier this year Sonex hired The Washington Capitol Group (TWCG), a government relations and public affairs firm. TWCG is working with Mr. Beach and Sonex personnel to formulate a strategy and pursue governmental and commercial business opportunities. One of their areas of emphasis is to help Sonex secure follow-up funding on its existing government programs through associations with government laboratories which have ongoing relationships with all the major automotive manufacturers and defense contractors. Sonex hopes these efforts will lead to increased cooperation with industry and accelerate commercialization of the Sonex technologies.

### Government Contracts; Expanding Technical Capabilities

Dr. Andrew A. Pouring, Chief Executive Officer, Vice Chairman of the Board of Directors, and Chief Scientist, expanded on the current programs with DOE and DARPA and provided an overview of the primary SCS piston technologies - the Low Soot Diesel Design (LSDD) and the Sonex Controlled Auto Ignition (SCAI) combustion process.

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Dr. Pouring explained that the LSDD enables soot and oxides of nitrogen (NOx) reductions in standard direct injection (DI) diesel engines at high compression ratios. He discussed the study conducted by one of the world's leading engine engineering consulting firms, Ricardo Consulting Engineers Ltd of the U.K., which confirmed the soot reductions achieved by the LSDD in a DI diesel engine used in medium-duty trucks. Ricardo presented these findings, as well as a technical description of how the SCS process works resulting from their Computational Fluid Dynamics study of the combustion process, in a technical paper to the Society of Automotive Engineers (SAE) 2002 Fuels and Lubes Conference. Dr. Pouring added that Ricardo have agreed to pursue marketing opportunities and work with Sonex on potential funded programs with engine manufacturers.

Currently, the LSDD is being evaluated under the Company's subcontract awarded by DOE prime contractor Compact Membrane Systems, Inc. (CMS). Sonex and CMS are evaluating the diesel engine emissions reduction potential of combining SCS pistons and the CMS polymer membrane technology for the addition of nitrogen enriched air to the combustion process. Sonex is conducting the testing on an advanced, research, three-cylinder, DI, turbo-charged, automotive diesel engine developed by a major international vehicle manufacturer in the joint U.S. Government and automotive industry funded PNGV (Partnership for a New Generation Vehicle) program.

The SCAI combustion process is applicable to low compression ratio DI engines to enable auto-ignition and combustion with high rates of heat release for a variety of fuels to achieve reduced emissions and increased fuel economy in un-throttled, lightweight engines. The SCAI is an in-cylinder method for isolating a small portion of an unthrottled, lean air-fuel charge in each combustion cycle to produce reactive chemical species (RCS) that are carried over to cause sparkless compression ignition in the next cycle at gasoline compression ratios. Sonex previously referred to the SCAI combustion process as "Stratified Charge, Radical Ignition (SCRI)" because the piston design process focuses on the control of ignition by placing a special design emphasis on the chemically active products of combustion known as "free radicals". The Company now feels that the term Sonex Controlled Auto Ignition (SCAI) is more descriptive of the ability of the process to control low compression ratio auto ignition in a DI engine.

The Company's current contract from DARPA calls for the conversion of an existing six-cylinder, spark-ignited, four-stroke, automotive engine from gasoline operation to heavy fuel operation through a custom common rail fuel injection system and an SCAI piston design. DARPA may consider this route to achieve an HFE for potential use in a developmental UAV or other engine applications. The SCAI process for four-stroke engines achieves sparkless ignition-combustion of the heavy fuel without raising the compression ratio to the levels found in diesel engines. As a result, the inherent light weight of the gasoline engine is preserved and peak combustion pressures are limited to those of gasoline operation. Currently, Sonex is nearing achievement of the laboratory configuration HFE to begin iterative testing on heavy fuel.

Dr. Pouring informed the shareholders that most of the recent SCAI calculations and computer modeling had been performed by David A. Blank, Ph.D., a former student of Dr. Pouring's at the U.S. Naval Academy and now a consultant to Sonex living in India. Dr. Blank also co-authored and presented the Company's most recent technical paper on the SCAI combustion process at the May 2003 SAE Fuels and Lubes Conference in Japan. Dr. Pouring expressed his thanks and gratitude to Dr. Blank for his significant contributions, particularly in view of the fact that to date Dr. Blank has received only stock option compensation for this work and partial reimbursement for his significant out-of-pocket expenditures. He stated that the Company would attempt to find room in its budget to provide cash compensation for Dr. Blank for his past efforts and bring him to Annapolis on a full-time, full-pay basis in 2004.

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Finally, Dr. Pouring reported that the Company is developing a patent application using proprietary techniques to improve the performance of rotary engines operating on gasoline now in use in some UAVs when converted to run on heavy fuels. The advantages for the rotary engine when compared to piston technologies are clearly significant. The rotary engine has fewer moving parts and is a very simple and elegant technical solution for UAV engines. Rotary engines converted by Sonex to run on heavy fuel are expected to exhibit efficient and steady performance. Combustion efficiency is expected to improve, thereby decreasing fuel consumption over all load ranges, which is very important for increasing endurance and/or increasing available payload capacity on UAVs.

### Potential Impact of Sonex GDI Technology on National Energy Policy Legislation

Mr. Michael I. Keller, the consultant who has served as the Company's Director of Business Development and Government Programs for the past few years, touched on the Company's efforts to provide input to the ongoing legislative process regarding fuel mileage and emissions standards. He recapped the efforts by Congress over the past year to legislate a national energy bill which could include increases to the future Corporate Average Fuel Economy (CAFE) standards for automobiles and light trucks. Congress failed to reach agreement in 2002 on such a bill but is addressing it once again in 2003.

Mr. Keller reported that Sonex is seeking to show the technical feasibility of achieving reduced fuel consumption while lowering emissions in a new class of gasoline engines, yet overcoming the safety concern that vehicles would need to be reduced in size and weight to improve fuel mileage. The SCAI combustion process focusing on the control of ignition may, with further development, enable gasoline direct injected (GDI) automobile engines, currently manufactured and sold only in markets outside the U.S. due to high emissions, to become emissions compliant in the U.S. while providing fuel consumption benefits.

He explained that Sonex had effectively presented the SCAI technology during the House-Senate Conference on the Energy Policy Act of 2002. Language in the 2002 version favorable to the Company's efforts has been carried over into the 2003 proposed bill, specifically encouraging industrial investment in feasible, innovative, fuel-saving technologies that could be put into production in the 2010 to 2012 timeframe.

The objective of Sonex is to be at the forefront by providing compelling laboratory engine data on how the SCAI can deliver 25% to 30% fuel mileage improvements at lower cost than any alternative in that time frame, such as hydrogen-fuel cell powered vehicles and infrastructure which are more costly and longer term. In addition, the evolution of hybrid gasoline and electric powered vehicles could be accelerated since a major improvement in engine fuel mileage would provide opportunities for tradeoff of vehicle weight versus fuel-electric balance.

Sonex is applying the SCS piston technologies in contracted programs for the DoD and the DOE. Outcomes from these current programs on diesel and heavy fuel should validate the SCS technology for in-cylinder control of ignition and combustion that could be applied to a gasoline powered version.

Contact: George E. Ponticas, CFO. Tel: 410-266-5556; email: sonex@erols.com; website www.sonexresearch.com

ABOUT SONEX

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Sonex Research, Inc., a leader in the field of combustion technology, is developing its patented Sonex Combustion System (SCS) piston-based technology for in-cylinder control of ignition and combustion, designed to increase fuel mileage and reduce emissions of internal combustion engines. Sonex plans to complete development, commercialize and market its Sonex Controlled Auto Ignition (SCAI) combustion process to the automotive industry to improve fuel efficiency of gasoline powered vehicles in response to forthcoming increases in national vehicle fuel mileage standards. Additionally, independent third-party testing has confirmed the potential of the SCS application for direct-injected diesel engines to reduce harmful soot in-cylinder without increasing fuel consumption. Other SCS designs are being used to convert gasoline engines of various sizes to operate on safer, diesel-type "heavy fuels" for use in military and commercial applications requiring light weight and safe handling and storage of fuel, such as in UAVs (unmanned aerial vehicles).

### CAUTION REGARDING FORWARD-LOOKING STATEMENTS

"Forward-looking" statements contained in this announcement, as well as all publicly disseminated material about the Company, are made pursuant to the "safe harbor" provisions of the Private Securities Litigation Act. Such statements are based on current expectations, estimates, projections and assumptions by management with respect to matters such as commercial acceptance of the SCS technology, the impact of competition, and the Company's financial condition or results of operations. Readers are cautioned that such statements are not guarantees of future performance and involve risks and uncertainties that could cause actual results to differ materially from those expressed in any such forward-looking statements. Additional information regarding the risks faced by Sonex is provided in the Company's periodic filings with the Securities and Exchange Commission under the heading "Risk Factors". Such filings are available upon request from the Company or online in the EDGAR database at [www.sec.gov](http://www.sec.gov).

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### 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 hereunto duly authorized.

September 24, 2003

SONEX RESEARCH, INC.  
Registrant

/s/ George E. Ponticas

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George E. Ponticas  
Chief Financial Officer