SONEX RESEARCH INC
Form 8-K
October 11, 2002

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): October 10, 2002

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

Maryland	0-14465	52-1188993
(State or other jurisdiction of incorporation)	(Commision 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

On October 10, 2002, Sonex Research, Inc. (the "Company") posted the following announcement on its website (www.sonexresearch.com):

SONEX HOLDS ANNUAL SHAREHOLDER MEETING,
PROVIDES DETAILS ON RECENT MILITARY CONTRACTS

ANNAPOLIS, MARYLAND, October 10, 2002 - SONEX RESEARCH, INC. (OTC BB: SONX) yesterday held its Annual Meeting of Shareholders to re-elect directors and to report on the latest developments and changes taking place at the Company. Management provided additional information about recent military contracts awarded, including the $744,246 contract awarded to Sonex by the Defense Advanced Research Projects Agency (DARPA) which was announced last week by the Company. Sonex also addressed the potential implications to the Company of enactment of the proposed Energy Policy Act of 2002 being debated now by Congress. Finally, a member of the Company's Board also assured attendees that recent sales of Sonex stock by the affiliated investment entities which together are the Company's largest shareholder were routine sales made to cover administrative expenses and represented an insignificant percentage of the shares held. Approximately 50 people attended the meeting at the Hampton Inn and Suites Annapolis.

BUSINESS CHANGES:

George E. Ponticas, Sonex CFO and Secretary, spoke of the difficulties of the past year that were overcome by the Company while suggesting that there is much more to do now that recent contracts have been received to provide a foundation on which to build. He noted that at the end of 2001, financial constraints resulted in a reduction in staffing with total employment falling to three full-time personnel, including officers, and the part-time services of Mr. Michael I. Keller, the individual who serves as the Company's Director of Business Development and Government Programs.

Mr. Ponticas said that past year's severe reduction of cash expenditures and the personal hardships endured by the remaining Company personnel, coupled with timely financial support from shareholders, helped the Company continue in operation. He added that as a result of the recent contracts and the prospects for a third government contract, Sonex finds itself with numerous business opportunities and has hired additional technical staffing to support the new projects. Mr. Ponticas gave special thanks to a number of shareholders, mentioning them by name, who have been lending their time and energy to support management's efforts.

He also noted that in anticipation of the changes to take place, in May Sonex retained The Scottsdale Group (TSG) as its investor relations and financial communications consultant. Mr. Ponticas stated that TSG will be helping to raise the Company's public profile in the automotive and defense industries as well as the investment community. Ms. Susan Ladue, a principal in TSG, later gave a brief presentation to the shareholder meeting concerning upcoming initiatives.

Mr. Ponticas also told those in attendance that Sonex is seeking to supplement its management capabilities and position itself to consider viable strategic opportunities. To help with those efforts, he announced that last week the Company engaged the services of Mr. John H. Elstner, a local consultant who has experience in building companies and obtaining capital. In response to a shareholder questions regarding the need for additional capital, Mr. Ponticas responded that with assistance from Mr. Elstner, the Company would seek a line of credit secured by the billings from the DARPA contract and explore other financing alternatives.

SCS LOW SOOT DIESEL DESIGN:

Dr. Andrew A. Pouring, CEO and founder of Sonex, spoke first of the testing programs with two foreign engine manufacturers in place last year for the patented Sonex Combustion System (SCS) technology for in-cylinder control of ignition and combustion in direct-injected (DI) diesel engines. He described specific problems encountered both by Sonex and by the engine manufacturers during the testing phases. Based on the experiences of these programs, Dr. Pouring told the audience that management had come to the realization that Sonex lacked the resources to address issues such as piston manufacturing processes, durability testing, and cost analysis. He intends to focus now on obtaining commercial partners, such as independent engine testing firms or major component suppliers, to achieve a maturation of the SCS relative to the expectations of engine manufacturers.

In that regard, Dr. Pouring provided an explanation of the work performed by Ricardo Consulting Engineers Ltd of Shoreham, England, that confirmed the soot reduction capability of the SCS Low Soot design in a truck diesel engine. He noted that Ricardo is one the world's leading engine engineering and powertrain consulting firms to the automotive industry. Dr. Pouring said that Ricardo is introducing the SCS Low Soot design results to potential customers, and is working with Sonex to pursue commercialization projects with engine manufacturers.

DARPA CONTRACT:

Dr. Pouring then addressed the $744,246 contract awarded recently to Sonex by DARPA. He described how the SCS technology would be applied to begin the design and development of a "heavy fuel" engine (HFE) conversion process for a gasoline automotive engine. DARPA's Tactical Technology Office (TTO) currently has an interest in such an engine for potential use in the A160 Hummingbird, an experimental helicopter-type unmanned aerial vehicle (UAV) under development as part of the joint DARPA/Army Future Combat Systems (FCS) program.

Dr. Pouring informed shareholders that the Department of Defense (DoD) has issued a directive requiring engines used in UAVs and other military applications for which gasoline storage and use are undesirable, to operate on less volatile, diesel-type, kerosene-based "heavy fuels" to reduce the hazard and logistics burden associated with gasoline. He said Sonex already has successfully established an HFE technology baseline by applying the SCS to the conversion of several sizes of commercially available, lightweight, spark-ignited (SI), two-stroke gasoline engines for use in UAVs to start and operate on heavy fuels.

Dr. Pouring explained that this program with DARPA will focus on an SCS process to convert an existing SI, four-stroke engine from gasoline operation to heavy fuel operation. Under the current level of effort and funding, Sonex expects to achieve a laboratory configuration of the SCS four-stroke engine operating on heavy fuels with power and fuel consumption essentially equal to operation of the stock engine on gasoline.

The DARPA funding is directed towards further development of a new, enhanced SCS process, called Stratified Charge, Radical Ignition (SCRI), for low compression ratio direct injected (DI) engines. Sonex believes that SCRI will enable practical application of an alternative combustion process known as homogeneous charge compression ignition (HCCI) that is being examined by the worldwide automotive industry. HCCI has been studied by many researchers for years because, in theory, it can lower emissions while also achieving reduced fuel consumption. The lack of a method for controlling the ignition point, however, has prevented practical implementation of HCCI. With the SCRI, Sonex believes it

has attained the control of ignition that will make HCCI viable for military and commercial application.

SCS SCRI 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. The SCS SCRI process for four-stroke engines achieves compression 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.

SCRI development to date has taken place on a DI, single cylinder, feasibility demonstrator engine at Sonex. The engine starts and operates on heavy fuel over a wide range of engine speeds and loads, with good fuel economy, without knocking, and with significantly lower particulate and NOx (oxides of nitrogen) emissions. The objective of the DARPA program is to translate the single cylinder results to a multi-cylinder engine.

Dr. Pouring said the availability of the resultant multi-cylinder, four-stroke HFE from a successful outcome of the DARPA project could lead to use in other military engine programs, as well as having potential for use in the commercial marine market in pleasure boats. He noted that boaters would prefer to have a diesel fueled engine as a safer alternative the current gasoline engines which too often result in dangerous onboard fires.

SAIC CONTRACT:

Dr. Pouring elaborated as well on the $200,000 DoD subcontract from Science Applications International Corporation (SAIC) announced by Sonex in early August. He noted that the award was for initial funding to begin the conversion of a 75 horsepower, water cooled, gasoline engine to start and operate on heavy fuels for use in a UAV weapon system. Under this project, Sonex will work with a commercially available lightweight, SI, two-stroke, gasoline engine, and begin development of an SCS modified combustion chamber design and proprietary starting system to permit the converted engine to start and operate on heavy fuels. Dr. Pouring explained that SAIC is waiting for approval before the end of the year of remaining funding of approximately $136,000 for Sonex to complete the design and testing process to achieve a prototype HFE. Such an engine could enable the DoD to develop intermediate size UAVs for varied missions.

ENERGY POLICY ACT OF 2002

Mr. Keller reported that the House and Senate currently are debating a national energy bill that upon enactment is expected to include provisions assigning the Department of Transportation (DOT) the task of issuing new fuel mileage standards within two years of enactment, as well as allocating millions in fiscal 2003 funding to support development of innovative propulsion technologies for the automotive industry. The technology development funding is expected to be targeted to fuel cell development, hybrid propulsion systems, and advanced internal combustion engine technologies. In response, Sonex plans to complete development, commercialize, and market its SCRI combustion process to the automotive industry as well as the DoD. Sonex believes that the SCRI "lean-burn, fast-burn" process, with further development, can also be applied to engines using gasoline and other fuels.

Mr. Keller explained that high mileage five-passenger automobiles using gasoline direct injected (GDI) engines presently are sold in Japan and Europe but are not available in the U.S. due to high NOx emissions. In literature made available to

the shareholders, Sonex stated its belief that SCS-SCRI could support the development of GDI engines of all sizes by 2007 that achieve fuel mileage improvements of 25% to 30% and meet EPA emission standards, without sacrificing weight and vehicle safety.

Mr. Keller added that Sonex has effectively presented the SCS-SCRI technology during the on-going House-Senate Conference on the Energy Policy Act of 2002 (H.R. 4). Sonex supported language in H.R. 4 that would apply the Corporate Average Fuel Economy (CAFE) rulemaking process as prescribed by U.S. Code to encourage industrial investment in feasible, innovative, fuel-saving technologies that could be put into production in the near term. The House and Senate recently have added provisions for funding specific vehicular propulsion R&D priorities that include GDI engines and related engine systems.

He noted that the news media has reported recently that the House-Senate legislative conference has agreed that future fuel savings of at least five billion gallons of gasoline. Mr. Keller pointed out, however, that the news media has not linked this legislation to the CAFE rulemaking process. He stated that this effort marks the first time since 1984 that legislation would authorize DOT to address changing the vehicular CAFE fuel mileage standard from the 27.5 miles per gallon now set forth in the U.S. Code. He further explained that this multi-step rulemaking process is open to the public.

According to Mr. Keller, the starting point for a higher CAFE fuel mileage standard is the DOT issue of a Request for Comments (RFC) on technologies that could be made available for increasing fuel economy. As prescribed by U.S. Code, Title 49, 32902 (f), the RFC information will be used by the Secretary of Transportation when deciding future fuel mileage standards by considering technological feasibility, economic practicability, the effect of other motor vehicle standards of the government on fuel economy, and the need of the United States to conserve energy. Mr. Keller noted that an RFC process is ongoing in the DOT rulemaking for light truck model years 2005-2010, during which process Sonex has submitted information on the merits of its combustion technology relative to other "lean-burn, fast-burn" combustion processes as used in today's spark ignited GDI engines. He said that Sonex would participate actively in the proposed CAFE rulemaking process.

In addition, Mr. Keller stated that the language of H.R. 4 prescribes a study to be administered by the DOT and performed by the National Academy of Sciences as to the feasibility of reducing the use of fuel by automobiles relative to model year 2010. Sonex will provide suggestions to the DOT on the impact of efficient and reduced emissions SCS direct injection gasoline and diesel engine technologies for consideration by the study panel.

The Company's literature also states that the anticipated passage of the Energy Policy Act of 2002 in its current form will challenge Sonex to continue SCRI technology maturation work for GDI engines. In particular, outcomes from the DARPA program on heavy fuel should validate the SCS technology for in-cylinder control of ignition and combustion that could be applied to a gasoline powered version.

RECENT STOCK SALES:

Mr. Lawrence H. Hyde, a member of the Company's Board of Directors, briefly spoke to address shareholder questions concerning the recent disclosure of sales of Sonex stock by Proactive, et.al., a group of affiliated investment entities and individuals which are the beneficial owners of approximately 23% of the Company's Common Stock. [Mr. Myron A. Wick, III, Sonex Chairman of the Board, and Mr. Charles C. McGettigan, director, are considered beneficial owners of a portion of the shares owned by Proactive, et.al., by virtue of their executive and ownership positions in various partnerships which are part of Proactive,

et.al.]

Mr. Hyde stated that he had spoken this week with Mr. Wick, who provided assurances that the sales of Sonex stock by two of Proactive, et.al. entities, were not done based on the Company's results. Rather, the sales are routine for all of the Proactive et.al. investments and are made to raise cash to cover administrative expenses of the entities. Mr. Hyde pointed out that the total shares sold recently represent less than 2% of the total holdings in Sonex by Proactive, et.al.

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ABOUT DARPA

The Defense Advanced Research Projects Agency (DARPA) is an organization of 240 personnel (approximately 140 of which are technical) directly managing a budget of about $2.5 billion. The DARPA mission is to develop imaginative, innovative and often high-risk research ideas offering a significant technological impact that will go well beyond the normal evolutionary developmental approaches; and, to pursue these ideas from the demonstration of technical feasibility through the development of prototype systems. More information about DARPA can be found on the Internet at www.darpa.mil.

ABOUT SONEX

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 SCS Stratified Charge Radical Ignition (SCRI) combustion process to the automotive industry in response to forthcoming increases in national vehicle fuel mileage standards. Presently, high mileage, roomy and safe five-passenger automobiles using gasoline, direct injected (GDI) engines are sold only in Japan and Europe due to high emissions. Sonex intends to conclusively demonstrate that SCS-SCRI will enable GDI engined vehicles to achieve 50 mpg (highway) while meeting emissions standards to permit sale in the U.S. as a viable, near-term alternative to longer-term solutions such as improvements in hybrid propulsion systems or years of further R&D required for fuel cell technology to become practical.

Additionally, independent third-party testing has confirmed the potential of the SCS application for DI diesel engines to reduce harmful soot in-cylinder without increasing fuel consumption. Sonex is pursuing joint marketing and commercialization programs for the SCS low soot technology with committed industrial partners.

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. Examples include UAVs (unmanned aerial vehicles) and ATVs (all-terrain vehicles) such as those used by U.S. defense forces in Afghanistan, as well as outboard engines, small watercraft used as targets, and generator sets.

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.

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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.

October 10, 2002

SONEX RESEARCH, INC.
Registrant

/s/ George E. Ponticas

George E. Ponticas
Chief Financial Officer