ESSEX CORPORATION Form POS AM June 17, 2002

As filed with the Securities and Exchange Commission on June 17, 2002 Registration No. 333 - 61200

> SECURITIES AND EXCHANGE COMMISSION Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 2 TO FORM S-2 REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

ESSEX CORPORATION (Exact name of registrant as specified in its charter)

COMMONWEALTH OF VIRGINIA (State or other jurisdiction of incorporation or organization)

(I.R.S. Employer Identification Number)

54-0846569

9150 Guilford Road Columbia, Maryland 21046 (301) 953-8800

(Address, including zip code, and telephone number, including area code, of Registrant's principal executive offices)

Leonard E. Moodispaw President and Chief Executive D. Scott Freed, Esquire Officer Essex Corporation 9150 Guilford Road Columbia, Maryland 21046 (301) 939-7000

WITH COPY TO:

Whiteford, Taylor & Preston L.L.P. Seven Saint Paul Street Baltimore, Maryland 21202 (410) 347-8700

(Name, address, including zip code, and telephone number, including area code, of agent for service)

Approximate date of commencement of proposed sale to public: As soon as practicable after the effective date of this Registration Statement.

If the only securities being registered on this form are being offered pursuant to dividend or interest reinvestment plans, please check the following box. / /

If any of the securities being registered on this form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box. /X/

If this form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. / /

If this form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering. /

If delivery of the prospectus is expected to be made pursuant to Rule 434, please check the following box. /

THE REGISTRANT HEREBY AMENDS THIS REGISTRATION STATEMENT ON SUCH DATE OR DATES AS MAY BE NECESSARY TO DELAY ITS EFFECTIVE DATE UNTIL THE REGISTRANT SHALL FILE A FURTHER AMENDMENT WHICH SPECIFICALLY STATES THAT THIS REGISTRATION STATEMENT SHALL THEREAFTER BECOME EFFECTIVE IN ACCORDANCE WITH SECTION 8 (a) OF THE SECURITIES ACT OF 1933, AS AMENDED, OR UNTIL THE REGISTRATION STATEMENT SHALL BECOME EFFECTIVE ON SUCH DATE AS THE COMMISSION, ACTING PURSUANT TO SAID SECTION 8 (a), MAY DETERMINE.

PROSPECTUS

SUBJECT TO COMPLETION: June 17, 2002

ESSEX CORPORATION

785,000 Shares of Common Stock

We have prepared this prospectus to allow some of our stockholders and optionholders to sell up to 785,000 shares of our Common Stock.

Our Common Stock trades on the OTC Bulletin Board under the symbol "ESEX." On June 14, 2002, the last reported sale price of our Common Stock was \$4.95 per share.

INVESTING IN OUR COMMON STOCK INVOLVES A HIGH DEGREE OF RISK. SEE "RISK FACTORS" BEGINNING ON PAGE 6.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THE COMMON STOCK, OR DETERMINED IF THIS PROSPECTUS IS TRUTHFUL OR COMPLETE. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this Prospectus is June , 2002.

THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY CHANGE. WE MAY NOT SELL THESE SECURITIES UNTIL THE REGISTRATION STATEMENT FILED WITH THE SEC IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IT IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY STATE WHERE THE OFFER OR SALE IS NOT PERMITTED.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and other reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's web site at http://www.sec.gov. You may also read and copy any document we file at the SEC's public reference rooms at 450 Fifth Street, N.W., Washington, D.C., and in New York, New York and Chicago, Illinois. Please call the SEC at 1-800-732-0330 for further information on the public reference rooms.

The SEC allows us to "incorporate by reference" the information we file with them, which means that we can disclose important information to you by referring you to these documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under the Securities Exchange Act of 1934:

- o Our Annual Report on Form 10-KSB for the fiscal year ended December 30, 2001.
- o Our Quarterly Report on Form 10-QSB for the three months ended March 31, 2002.
- o The description of our Common Stock in our Form 8-A as it may be amended from time to time.

We are delivering with this prospectus a copy of the Form 10-KSB and Form 10-QSB referred to above. To obtain a copy of other filings at no cost, you may write or telephone us at the following address:

Corporate Secretary
ESSEX CORPORATION
9150 Guilford Road
Columbia, Maryland 21046
(301) 939-7000

Neither we nor the selling stockholders have authorized anyone else to provide you with different information. Neither we nor the selling stockholders are making an offer of these securities in any state where the state does not permit an offer. You should not assume that the information in this prospectus is accurate as of any date other than the date on the front of this prospectus or on any prospectus supplement that accompanies this prospectus.

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FORWARD-LOOKING STATEMENTS

Some of the statements contained, or incorporated by reference, in this prospectus discuss future expectations, contain projections of results of operations or financial condition or state other "forward-looking" information. Those statements are subject to known and unknown risks, uncertainties and other factors that could cause the actual results to differ materially from those contemplated by the statements. The "forward-looking" information is based on various factors and was derived using numerous assumptions. In some cases, you can identify these so-called "forward-looking statements" by words like "may,"

"will," "should," "expects," "plans," "anticipates," "believes," "estimates," "predicts," "potential," or "continue" or the negative of those words and other comparable words. You should be aware that those statements only reflect our predictions. Actual events or results may differ substantially. Important factors that could cause our actual results to be materially different from the forward-looking statements are disclosed under the heading "Risk Factors" and throughout this prospectus.

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ESSEX CORPORATION

REFERENCES TO "WE," "US," "OUR" AND "ESSEX" REFER TO ESSEX CORPORATION.

Essex is an optical and digital signal processing firm that is developing technologies, components, devices and systems that enable next-generation products in fast-growing areas of the telecommunications and microelectronics industries: fiber-optic transmission, wireless telecommunications, high-speed optoelectronics processors and advanced semiconductor chips. Our products and services incorporate advances achieved through more than two decades of pioneering work in developing high-throughput optoelectronics processors and receivers for image, signal and data processing, and advanced communications applications for U.S. intelligence organizations.

Essex's optoelectronics-engineering team has applied its optical and digital signal processing experience to critical challenges in the telecommunications and advanced digital signal processing fields. As a result, Essex is developing three product lines that it believes have the potential to provide dramatic improvements in the speed, cost effectiveness and quality of service for next-generation systems in fiber-optic data transmission, wireless telecommunications and image processing.

Essex currently does not have sufficient resources to bring its telecommunications and optoelectronics processing devices to market. Accordingly, Essex will likely have to partner with or enter into licensing arrangements with major industry participants in order to successfully introduce its technology and products. In addition, several optical telecommunications and fiber optic companies, both established and emerging, are currently developing products that may compete in the specialty areas that Essex's technology is designed to address. These companies are all larger and more established than Essex, have existing customer bases and significantly greater access to capital resources than Essex. See "RISK FACTORS."

Our products under development include:

- An all-optical, all-passive technique, HYPERFINE WDM FIBER OPTIC COMMUNICATIONS TECHNOLOGY, which has shown in laboratory tests and prototype demonstrations to significantly increase the number of channels and their combined bandwidth used for DWDM. The core HYPERFINE WDM technology provides:
 - All passive optical components;
 - Simple and small packaging;
 - Excellent channel isolation;
 - High density--50 MHz to 100 GHz spacing;
 - Superior response and flat filter shapes;

- Passband shapes that can be tailored for each application;
- Low insertion loss;

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- Low temperature sensitivity;
- Fixed or tunable designs; and
- Standard manufacturing processes.
- An optically enhanced digital signal processing technology, OPTICAL PROCESSOR ENHANCED RECEIVER ARCHITECTURE (OPERATM), has demonstrated in laboratory modeling a dramatic increase in the quality of service and carrying capacity for CDMA wireless telecommunications systems. We believe the OPERA(TM) technology has the potential to revolutionize current and future 2.5G and 3G CDMA systems, when deployed, by eliminating the "near-far" interference problem and allowing significantly more channels (users) per base station. Essex is in continuing discussions with wireless industry representatives regarding development of initial prototypes. Further development and testing of OPERA(TM) has been temporarily delayed until funding is identified and obtained to finance such activity.
- A high-speed optoelectronic processor, IMAGE SYNTHESIS (IMSYNTM), enabling extraordinarily fast processing of data for complex visual image systems including radar imaging, magnetic resonance imaging (MRI), microscopy and ultrawideband signal processing. The second generation ImSyn(TM) optoelectronic processor can accelerate computing speed for processing of large volumes of data by factors of up to one hundred times over comparable digital-only processing. Partial development of the second generation of ImSyn(TM) is taking place under a government contract for the development of advanced synthetic aperture radar techniques. We are currently seeking additional funding to further the development and testing of second generation ImSyn(TM) processors in 2002.

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RISK FACTORS

You should carefully consider the following risk factors before deciding to invest in our Common Stock. You should also consider the other information in this prospectus and the additional information in our other reports on file with the SEC and in the other documents incorporated by reference in this prospectus. See "Where You Can Find More Information" on page 2.

RISKS RELATED TO OUR FINANCIAL RESULTS

WE HAVE A HISTORY OF NET LOSSES AND EXPECT TO CONTINUE TO INCUR NET LOSSES FOR THE FORESEEABLE FUTURE, AND MAY NEVER ACHIEVE OR SUSTAIN PROFITABILITY.

We incurred a net loss for our fiscal years ended December 30, 2001 and December 31, 2000 and for the fiscal quarter ended March 31, 2002. The Company also incurred net losses in fiscal 1998 and 1997. In 1999, we reported a small net income. As of fiscal year end 2001and March 31, 2002, we had accumulated

deficits of \$12.2 million and \$13.1 million, respectively. Our revenues have declined from \$3.3 million in fiscal 2000 to \$2.6 million in fiscal 2001, primarily as a result of our focus on commercial optoelectronics telecommunications products that have not yet generated revenue. Our revenues for the quarter ended March 31, 2002 were \$763,000 compared to revenues of \$413,000 in the same period in 2001. We expect to incur net losses for the foreseeable future. To date, we have primarily funded our operations from the sale of equity securities. We also expect to incur significant product development and administrative expenses, and, as a result, we will need to significantly increase revenues to achieve profitability. Even if we achieve profitability, given the competition in, and the evolving nature of, the optical and wireless telecommunications markets, we may not be able to sustain or increase profitability on a quarterly or annual basis. As a result, we will need to generate significantly higher revenues while containing costs and operating expenses if we are to become and remain profitable.

IF OUR ACTUAL CAPITAL REQUIREMENTS VARY SIGNIFICANTLY FROM OUR EXPECTATIONS, WE MAY REQUIRE ADDITIONAL FINANCING SOONER THAN ANTICIPATED.

Since September 2000 we have received approximately \$5.4 million from private investors to pursue commercial applications of our optical and wireless communications technologies and resulting products. We have commitments for an additional \$500,000 of investment on an as needed basis from these private investors. Additional funds are critical to our ability to continue to develop our commercial technologies and products because we currently experience and expect to continue to experience negative cash flows. The funds available and committed are projected to last through 2002. Our actual capital requirements depend upon several factors that are difficult to predict, including the timing of market acceptance of our commercial products under development, our ability to establish and expand our customer base for our commercial products and services, the level of expenditures for sales and marketing and general and administrative functions, the level of revenues from our U.S. Government contracts, the cost of offering additional services and other factors. If our capital requirements vary materially from those currently planned, we may require additional financing

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sooner than anticipated. There can be no assurance that such funding will be available or could be obtained in sufficient amounts or on terms acceptable to us, if at all, or on terms that would not include substantial dilution to our stockholders. Without timely financing, we would have to curtail or eliminate development and immediately reduce expenditures.

RISKS RELATED TO OUR BUSINESS

THE EARLY STAGE OF DEVELOPMENT OF OUR OPTICAL AND WIRELESS TELECOMMUNICATIONS PRODUCTS MAKES IT DIFFICULT TO EVALUATE OUR BUSINESS AND PROSPECTS.

We have traditionally derived our revenues from providing engineering and signal processing services to the U.S. Government. While we continue to provide these services, over the past two years we have increasingly emphasized our work on developing new optoelectronics telecommunications products, including HYPERFINE WDM fiber optic communications technology and OPERA(TM). Because our development efforts on these products are ongoing and we have not begun commercial sales of these products, our revenue and profit potential is unproven and our limited history in the commercial telecommunications field makes it difficult to evaluate our business and prospects. Further, due to our shift in focus, we have difficulty accurately forecasting our revenue, and we have limited historical financial data upon which to base operating expense budgets. You should consider our business and prospects in light of the

heightened risks and unexpected expenses and problems we may face as a company in an early stage of commercial development in a rapidly-evolving industry.

WE CURRENTLY RELY ON SALES TO U.S. GOVERNMENT ENTITIES, AND THE LOSS OF SUCH CONTRACTS WOULD HAVE A MATERIAL ADVERSE IMPACT ON OUR OPERATING RESULTS.

During fiscal 2001, contracts with the U.S. Government, primarily the military services and other departments and agencies of the Department of Defense (DoD), accounted for approximately \$1.9 million, or 73% of our revenues. In fiscal 2000, U.S. Government programs accounted for \$2.4 million, or 73%, of our revenues. During the first quarter of fiscal 2002 U.S. Government programs accounted for \$763,000, or 100%, of our revenues. The reduction in revenues from commercial customers in 2000 and 2001 has increased dependence upon such government program revenues. Our business with the agencies of the Department of Defense (DoD) is focused increasingly on our proprietary optoelectronics technology and products. Until we are able to generate revenues from sales of our commercial optoelectronics telecommunication products, our results of operations will continue to depend on contracts with the DoD and other U.S. Government departments and agencies. The loss of any significant contract or a significant reduction in or cancellation of these contracts would adversely affect our revenues and impair our ability to continue the development of our proprietary products.

The loss or significant reduction in government funding of a large program in which we participate could also materially adversely affect our future revenues, earnings and cash flows and thus our ability to meet our financial obligations. U.S. Government contracts are conditioned upon the continuing approval by Congress of the amount of necessary spending. Congress usually appropriates funds for a given program each fiscal year even though contract periods of performance may exceed one year. Consequently, at the beginning of a major

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program, the contract is usually partially funded, and additional monies are normally committed to the contract only if appropriations are made by Congress for future fiscal years.

GOVERNMENT CONTRACTS CONTAIN UNFAVORABLE TERMINATION PROVISIONS AND ARE SUBJECT TO AUDIT AND MODIFICATION.

Companies engaged in supplying defense-related equipment and services to U.S. Government agencies are subject to certain business risks peculiar to the defense industry. These risks include the ability of the U.S. Government to unilaterally:

- o suspend us from receiving new contracts pending resolution of alleged violations of procurement laws or regulations;
- o terminate existing contracts;
- o reduce the value of existing contracts;
- o audit our contract-related costs and fees, including allocated indirect costs; and
- o control and potentially prohibit the export of our products.

All of our U.S. Government contracts can be terminated by the U.S. Government either for its convenience or if we default by failing to perform under the contract. Termination for convenience provisions provide only for our recovery of costs incurred or committed, settlement expenses and profit on the work completed prior to termination. Termination for default provisions provide for the contractor to be liable for excess costs incurred by the U.S. Government

in procuring undelivered items from another source.

OUR FIXED PRICE CONTRACTS MAY COMMIT US TO UNFAVORABLE TERMS.

We provide some of our products and services through fixed price contracts. Fixed price contracts provided 22%, 45% and 73% of our revenues for fiscal 2000, fiscal 2001and the first quarter of fiscal 2002, respectively. In a fixed price contract, the price is not subject to adjustment based on costs incurred to perform the required work under the contract. Therefore, we fully absorb cost overruns on fixed price contracts and this reduces our profit margin on the contract. Those cost overruns may result in a loss. A further risk associated with fixed price contracts is the difficulty of estimating sales and costs that are related to performance in accordance with contract specifications and the possibility of obsolescence in connection with long-term procurements. Failure to anticipate technical problems, estimate costs accurately or control costs during performance of a fixed price contract may reduce our profit or cause a loss on the contract.

WE MAY NOT SUCCESSFULLY IMPLEMENT OUR PLAN TO EXPAND INTO COMMERCIAL MARKETS.

Our revenues currently come from business with the DoD and other U.S. Government agencies. In addition to continuing to pursue these market areas, we will focus our technical capabilities and expertise on related commercial markets, including HYPERFINE WDM, OPERA(TM) and ImSyn(TM). These products are still under various stages of development. As such, these products are subject to certain risks and may require us to:

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- o develop marketing, sales and customer support capabilities;
- o obtain customer and/or regulatory certification;
- respond to rapid technological advances; and
- o obtain customer acceptance of these products and product performance.

Our efforts to enter commercial markets will require significant resources, including additional working capital and capital expenditures, as well as the use of management's time. Our efforts to sell our commercial telecommunications products, particularly our optical networking and broadband wireless communications products, also may depend to a significant degree on the efforts of independent distributors or communication service providers. We can give no assurance that these distributors or service providers will be able to market our products or their services successfully or that we will be able to realize a return on our investments in them. If we are not successful in addressing these risks or in developing these commercial business opportunities we may not be able to reach profitability or remain in business.

OUR SUCCESS LARGELY DEPENDS ON OUR ABILITY TO RETAIN KEY PERSONNEL.

Our success has always depended in large part on our ability to attract and retain highly-skilled technical, managerial, sales and marketing personnel, particularly those skilled and experienced in optoelectronics and optical communications equipment. We have entered into agreements with our employees that limit the employee's ability to work for a competitor following termination of employment. We expect our competitors will respect these agreements and not interfere with them. We can make no assurances of that, or that we will be able to retain all of our key contributors or attract new personnel to add to or replace them. The loss of key personnel would prevent us from completing current development and restrict new development.

IF BROADBAND WIRELESS TECHNOLOGY OR OUR IMPLEMENTATION OF THIS TECHNOLOGY IS NOT BROADLY ACCEPTED, WE WILL NOT BE ABLE TO EXPAND OUR BUSINESS.

The future success of OPERA(TM) and other wireless products we are currently developing depends on high-speed wireless communications products gaining market acceptance as a means to provide improved voice and data communications services. Because these markets are relatively new, it is difficult to predict which market segments will develop or expand. We have recently invested and expect to continue to invest significant time and resources in the development of new products for this market. In the event that service providers adopt technologies other than the high-speed access and other wireless technologies or delay in their deployment of high-speed wireless communication products, we will not be able to generate significant revenues from our wireless products and our results of operations and financial condition could be materially and adversely affected.

IF WE ARE UNABLE TO DEVELOP AND SUCCESSFULLY INTRODUCE NEW AND ENHANCED PRODUCTS THAT MEET THE NEEDS OF OUR CUSTOMERS IN A TIMELY MANNER, OUR REVENUES AND RESULTS OF OPERATIONS COULD BE ADVERSELY AFFECTED.

Our future success depends on our ability to anticipate our customers' needs and develop products that address those needs. Technological change in the optical networking industry is

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occurring at a rapid pace. As a result, we expect there to be frequent new product introductions, changes in customer requirements and evolving industry standards. We may not be able to develop new products or enhancements to our existing products in a timely manner, or at all. This would cause potential customers to seek other solutions, which would reduce our revenues and adversely affect our results of operations and financial condition.

We are currently developing many potential optical networking products through our research and development efforts. Although we have several products in development, we may not bring all of these potential products into commercial production due to:

o changes in customer demand; o technological developments that make our products less competitive; o evolving industry standards; or o allocation of our limited resources to other products or technologies.

If we incur significant expenses developing products that we do not produce commercially, or if we select the wrong products or technologies to bring into commercial production, our revenues and results of operations could be adversely affected and we may not recover significant research and development expenses.

OUR SUCCESS IS DEPENDENT ON OUR OPTOELECTRONICS TELECOMMUNICATIONS PRODUCTS BEING DEVELOPED. FAILURE OF OUR PRODUCTS TO OPERATE AS EXPECTED COULD DELAY OR PREVENT THEIR DEPLOYMENT AND SALE AND COULD SERIOUSLY IMPAIR OUR BUSINESS AND PROSPECTS.

Our future growth and success largely depends on the commercial success of our optical and wireless telecommunications products being developed. We have not begun commercial sales of our products and have produced devices only to specifications required in order to conduct laboratory tests and field trials. Some of our devices have been deployed in field trials, others have been tested in our laboratories and still others are in earlier stages of development. If

our products fail to operate as expected, this could delay or prevent their deployment and sale and could seriously impair our business and prospects. If our customers do not successfully test and deploy our products and technologies, we may not be able to reach profitability or remain in business.

THE MARKET WE INTEND TO SERVE IS HIGHLY COMPETITIVE AND WE MAY NOT BE ABLE TO ACHIEVE OR MAINTAIN PROFITABILITY.

Competition in the network communications equipment market is intense. This market has historically been dominated by large companies, such as Alcatel, Ciena, Cisco Systems, JDS Uniphase, Lucent Technologies, NEC and Nortel Networks. Some of these companies, as well as emerging companies, are currently developing products that may compete in the specialty areas that Essex's technology is designed to address. We may face competition from other large communications companies who may enter our proposed markets. Many of our competitors have longer operating histories, greater name recognition, larger customer bases and greater financial, technical and sales and marketing resources than we do and may be able to undertake more extensive marketing efforts and adopt more aggressive pricing policies than we can. Moreover, our competitors may foresee the course of market developments more accurately than

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we do and could develop new technologies that compete with our products or render our products obsolete. Due to the rapidly evolving markets in which we compete, additional competitors with significant market presence and financial resources may enter our markets, further intensifying competition.

IF WE ARE UNABLE TO PROTECT OUR INTELLECTUAL PROPERTY EFFECTIVELY, WE MAY BE UNABLE TO PREVENT THIRD PARTIES FROM USING OUR TECHNOLOGIES, WHICH WOULD IMPAIR OUR COMPETITIVE ADVANTAGE.

We rely on a combination of patent, copyright, trademark and trade secret laws and restrictions on disclosure to protect our intellectual property rights. We also enter into confidentiality or license agreements with our employees and consultants and control access to and distribution of our software, documentation and other proprietary information. The Company believes that its patents and patent applications provide it with a competitive advantage. Accordingly, in the event the Company's products and technologies under development gain market acceptance, patent protection would be important to the Company's business. However, obtaining patent and other intellectual property protection may not adequately protect our rights or permit us to gain or keep any competitive advantage. For instance, unauthorized parties may attempt to copy, reverse engineer or otherwise obtain and use our patented products or technology without our permission, thus eroding or eliminating the competitive advantage we hope to gain though the exclusive rights provided by patent protection. Moreover, our existing patents and patents we have applied for (if granted) may not protect us against competitors that independently develop proprietary technologies that are substantially equivalent or superior to our technologies, or design around our patents. In addition, the competitive advantage provided by patenting our technology may erode if we do not upgrade, enhance and improve our technology on an ongoing basis to meet competitive challenges.

Monitoring unauthorized use of our technology is difficult, and we cannot be certain that the steps we have taken will prevent unauthorized use of our technology, particularly in foreign countries where the laws may not protect our proprietary rights as fully as in the United States. A complete description of Essex's patents and patent applications is contained in Essex's Annual Report on Form 10-KSB for fiscal 2001. The Form 10-KSB is incorporated in this

prospectus by reference and we are delivering a copy of the report together with this prospectus.

THERE IS A RISK THAT OUR PATENT APPLICATIONS WILL NOT BE GRANTED.

Although we have filed several applications for U.S. patents relating to our HyperFine WDM(TM) and OPERA(TM) technologies, there is a risk that some or all of our pending applications will not issue as patents. Although we believe our patent applications are valid, the failure of our pending applications to issue as patents would eliminate the competitive advantage we hope to gain by obtaining patent protection and thus likely would have a material adverse effect upon our business and results of operations.

WE MAY BECOME INVOLVED IN INTELLECTUAL PROPERTY DISPUTES, WHICH COULD SUBJECT US TO SIGNIFICANT LIABILITY, DIVERT THE TIME AND ATTENTION OF OUR MANAGEMENT AND PREVENT US FROM SELLING OUR PRODUCTS.

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We or our customers may become a party to litigation in the future to protect our intellectual property or to respond to allegations that we infringe others' intellectual property. Any parties asserting that our products infringe upon their proprietary rights would force us to defend ourselves and possibly our customers against the alleged infringement. If we are unsuccessful in any intellectual property litigation, we could be subject to significant liability for damages and loss of our proprietary rights. Intellectual property litigation, regardless of its success, would likely be time consuming and expensive to resolve and would divert management time and attention. In addition, we could be forced to do one or more of the following:

- o stop selling, incorporating or using our products that include the challenged intellectual property;
- o obtain from the owner of the infringed intellectual property right a license to sell or use the relevant technology, which license may not be available on reasonable terms, or at all; or
- o redesign those products that use the technology.

If we are forced to take any of these actions, our business would be seriously harmed.

IF NECESSARY LICENSES OF THIRD-PARTY TECHNOLOGY ARE NOT AVAILABLE TO US OR ARE VERY EXPENSIVE, OUR BUSINESS WOULD BE SERIOUSLY HARMED.

From time to time we may be required to license technology from third parties to sell or develop our products and product enhancements. These third-party licenses may not be available to us on commercially reasonable terms, if at all. Our inability to maintain or obtain any third-party license required to sell or develop our products and product enhancements could require us to obtain substitute technology of lower quality or performance standards or at greater cost. If we were required to use technology with lower performance standards or quality, customers may stop buying our products and this would cause our revenues to decline. Similarly, if our costs rise significantly, customers may choose less expensive alternative products, which would cause our revenues to decline.

RISKS RELATED TO THE OPTICAL NETWORKING INDUSTRY

THE OPTICAL NETWORKING INDUSTRY IS DEVELOPING, UNPREDICTABLE AND CHARACTERIZED BY RAPID TECHNOLOGICAL CHANGES AND EVOLVING STANDARDS. IF THIS INDUSTRY DOES NOT DEVELOP AND EXPAND AS WE ANTICIPATE, DEMAND FOR OUR PRODUCTS MAY FAIL TO GROW OR

MAY DECLINE, WHICH WOULD ADVERSELY AFFECT OUR REVENUES.

The optical networking industry is developing and characterized by rapid technological change, frequent new product introductions, changes in customer requirements and continuously evolving industry standards. As a result, it is difficult to predict its potential size and future growth rate. In addition, evolving customer requirements and industry standards are uncertain. Our success depends in part on the widespread adoption of next generation optical networks. Communications service providers that have invested substantial resources in their existing optical networks or other systems may be reluctant or slow to develop and deploy next-

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generation optical networks. Our success in generating revenues in this emerging market will depend on our ability to:

- o establish, maintain and enhance our relationships with optical networking customers;
- o convince our customers of the benefits of next-generation optical networks; and
- o predict accurately, and develop our products to meet, evolving customer requirements and industry standards.

If we fail to address changing market conditions, sales of our products may fail to grow or may decline, which would adversely affect our revenues.

THE OPTICAL NETWORKING EQUIPMENT INDUSTRY IS EXPERIENCING DECLINING AVERAGE SELLING PRICES, WHICH COULD ADVERSELY AFFECT OUR REVENUES AND GROSS MARGINS.

The optical networking equipment industry is experiencing declining average selling prices as a result of increasing competition and greater unit volumes as communications service providers continue to deploy fiber optic networks. We anticipate that average selling prices will continue to decrease in the future in response to product introductions by competitors, price pressures from significant customers and greater manufacturing efficiencies. These average selling price declines may contribute to a decline in our gross margins, which could adversely affect our results of operations.

THE MARKET FOR OUR HYPERFINE PRODUCTS UNDER DEVELOPMENT IS NEW AND UNCERTAIN AND OUR BUSINESS WILL SUFFER IF IT DOES NOT DEVELOP AS WE EXPECT.

Most service providers have made substantial investments in their current network infrastructure, and they may elect to remain with current network architectures or to adopt new architectures in limited stages or over extended periods of time. A decision by a customer to purchase some of our all-optical products under development will involve a significant capital investment. We will need to convince these service providers of the benefits of all-optical network products for future network upgrades or expansions. We cannot be certain that a viable market for our products will develop or be sustainable. If this market does not develop, or develops more slowly than we expect, our business, financial condition and results of operations would be seriously harmed.

IF THE INTERNET AND COMMERCIAL DATA NETWORKS DO NOT CONTINUE TO EXPAND AND NEXT-GENERATION OPTICAL NETWORKS ARE NOT DEPLOYED AS RAPIDLY AS WE ANTICIPATE, WE MAY BE UNABLE TO SELL OUR PRODUCTS UNDER DEVELOPMENT.

Our future success depends on the continued growth of the Internet and commercial data networks for commerce and communications, the continuing

increase in the amount of data transmitted over communications networks and the increasing adoption of, and improvements to, optical networks to meet the increased demand for bandwidth. If data networks, including the Internet, do not continue to expand as a widespread communications medium and commercial marketplace, the need for significantly increased bandwidth across networks and the market for optical networking products may not continue to develop. Future demand for the products we

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are developing is uncertain and will depend to a great degree on the continued growth and upgrading of optical networks. If this growth does not continue, we may be unable to reach profitability or remain in business.

BECAUSE OPTICAL PRODUCTS ARE COMPLEX AND ARE DEPLOYED IN COMPLEX ENVIRONMENTS, THE PRODUCTS WE ARE DEVELOPING MAY HAVE DEFECTS THAT WE DISCOVER ONLY AFTER FULL DEPLOYMENT, WHICH COULD SERIOUSLY HARM OUR BUSINESS.

Optical products are complex and are designed to be deployed in large quantities across complex networks. Because of the nature of the products, they can only be fully tested when completely deployed in large networks with high amounts of traffic. Customers may discover errors or defects in the hardware or the software, or products we develop may not operate as expected, after they have been fully deployed. If we are unable to fix defects or other problems that may be identified in full deployment, we would experience:

- o loss of, or delay in, revenue and loss of market share;
- o loss of existing customers;
- o failure to attract new customers or achieve market acceptance;
- o diversion of development resources;
- o increased service and warranty costs;
- o legal actions by our customers; and
- o increased insurance costs.

The occurrence of any of these problems would seriously harm our business, financial condition and results of operations. Defects, integration issues or other performance problems could result in financial or other damages to our customers or could negatively affect market acceptance for the products we develop. Our customers could also seek damages for losses from us, which, if they were successful, would seriously harm our business, financial condition and results of operations. A product liability claim brought against us, even if unsuccessful, would likely be time consuming and costly and would put a strain on our management and resources.

RISKS RELATED TO THIS OFFERING

WE ARE CONTROLLED BY A LIMITED NUMBER OF STOCKHOLDERS THAT WILL BE ABLE TO EXERT SIGNIFICANT INFLUENCE OVER MATTERS REQUIRING STOCKHOLDER APPROVAL.

We are controlled by two private investment firms, GEF Optical Investment Company, LLC and Networking Ventures, L.L.C. and their affiliates. We refer to these firms as the "Investors." Together the Investors own preferred stock having voting rights equivalent to 51% of the voting power of all shares of voting stock on all stockholder matters through mid-September 2002, at which time such preferred stock will be converted to 2 million shares of Common Stock. In addition, the Investors and their affiliates have directly acquired or contracted to acquire 929,234 shares of Common Stock from the Company, including 660,000 shares of Common Stock covered by this Prospectus. Accordingly, the Investors will control us and have the power to elect all of our directors, appoint new management and approve certain actions requiring the approval of the

holders of shares of our Common Stock. This concentration

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of ownership may also delay or prevent a change in control of Essex or reduce the price investors might be willing to pay for our Common Stock. The interests of the Investors may conflict with the interests of other holders of our Common Stock.

THERE IS CURRENTLY ONLY A LIMITED PUBLIC MARKET FOR OUR COMMON STOCK AND OUR COMMON STOCK IS SUBJECT TO SIGNIFICANT PRICE FLUCTUATIONS.

Our Common Stock is listed on the OTC Bulletin Board. Prior to this offering there only has been a limited public market for our Common Stock. Unless and until our Common Stock is admitted for quotation on the Nasdaq Stock Market or listed on a national securities exchange it is unlikely that any active trading market will develop or, if any such market develops, that it will be sustained. Even if our Common Stock is admitted for quotation or listing on Nasdaq or a national securities exchange, an active trading market may not develop unless the number of shares in the hands of the public is substantially increased. In addition, in the event our operating results fall below the expectations of public market analysts and investors, the market price of our Common Stock would likely be materially adversely affected.

The trading price of our Common Stock is likely to be volatile and sporadic. The stock market in general, and the market for technology companies in particular, has experienced extreme volatility. This volatility has often been unrelated to the operating performance of particular companies. Volatility in the market price of our Common Stock may prevent investors from being able to sell their Common Stock at or above the price such investors paid for their shares or at any price at all.

SALES BY THE SELLING STOCKHOLDERS OR OTHERS OF A SIGNIFICANT NUMBER OF SHARES OF COMMON STOCK COULD HAVE A MATERIAL ADVERSE EFFECT ON PREVAILING MARKET PRICES.

We cannot predict what effect, if any, that future sales of shares, or the availability of shares for future sale, will have on the market price of our Common Stock prevailing from time to time. Nevertheless, sales of substantial amounts of Common Stock by the selling stockholders, or the perception that such sales may occur, could have a material adverse effect on prevailing market prices.

As of March 31, 2002 we had outstanding approximately 5.3 million shares of our Common Stock, 814,000 of which were issued and sold by us in private transactions in reliance upon exemptions from registration under the Securities Act. Other than the shares of Common Stock covered by this prospectus, shares may be sold only pursuant to an effective registration statement filed by Essex or an applicable exemption, including the exemption contained in Rule 144 promulgated under the Securities Act. In general, under Rule 144 as currently in effect, a shareholder, including an affiliate of Essex, may sell shares of Common Stock after at least one year has elapsed since such shares were acquired from us or an affiliate of ours. The number of shares of Common Stock which may be sold within any three- month period is limited to the greater of one percent of the then outstanding number of shares of Common Stock or the average weekly trading volume in the Common Stock during the four calendar weeks preceding the date on which notice of such sale was filed under Rule 144. Certain other requirements of Rule 144

concerning availability of public information, manner of sale and notice of sale must also be satisfied. In addition, a shareholder who is not our affiliate (and who has not been our affiliate for 90 days prior to the sale) and who has beneficially owned shares acquired from us or our affiliate for over two years may resell the shares without compliance with the foregoing requirements under Rule 144.

In addition to the shares covered by this prospectus, the Investors have been granted rights to have up to 4,000,000 shares of Common Stock issuable upon conversion of preferred stock and underlying warrants registered under the Securities Act upon demand. Sales of substantial amounts of Common Stock under Rule 144 or pursuant to the Investor's registration rights, or the perception that such sales may occur, could have a material adverse effect on prevailing market prices.

In March 2002, the Investors committed to purchase a total of 230,766 shares of Common Stock at a purchase price of \$6.50 per share. In the event that Essex completes a round of financing with institutional investors prior to December 31, 2002 at a price of less that \$6.50 per share, the price paid by the Investors will be adjusted downward to equal the price paid by such institutional investors, but in no event will go below \$3.00 per share. This adjustment provision could result in the issuance of up to 269,234 additional shares to the Investors for no additional consideration, resulting in dilution to other stockholders.

WE ARE AT RISK OF SECURITIES CLASS ACTION LITIGATION DUE TO OUR EXPECTED STOCK PRICE VOLATILITY.

In the past, securities class action litigation has often been brought against companies after periods of volatility in the market price of their securities. Securities litigation could result in substantial costs and divert management's attention and resources from our business. Due to the potential volatility of our stock price, we may be the target of securities litigation in the future.

USE OF PROCEEDS

We will not receive any proceeds from the sale of the Common Stock by the selling stockholders. We may receive a small amount of proceeds if and when an optionholder exercises the option that it holds and we will use those proceeds for general corporate purposes.

SELLING STOCKHOLDERS

This prospectus relates to the offering by the stockholders and optionholder named in the prospectus for resale of up to 785,000 shares of Common Stock. Throughout this prospectus, we may refer to these stockholders and optionholder and their pledgees, donees, transferees or other successors in interest who receive shares in non-sale transactions, as the "selling stockholders." If they sell all of these shares in this offering, the selling stockholders will beneficially own the shares of our Common Stock as shown below.

The following table sets forth the following information with respect to each selling stockholder as of March 31, 2002: (i) name and nature of any position or other relationship with us within the past three years; (ii) the number and percentage of total outstanding shares of our Common Stock each selling stockholder beneficially owns before this offering; (iii) the number

of shares of Common Stock the selling stockholder is offering; and (iv) the number and percentage of total outstanding shares of our Common Stock that the selling stockholder will own after the selling stockholder sells all of the shares in this offering.

Name and Address of Beneficial Owner	Amount and Nature of Beneficial Ownership Before the Offering	Percentage of Outstanding Shares of Common Stock Beneficially Owned Before the Offering	Shares of Common Stock Offered	Amount and Nature of Beneficial Ownership After the Offering
	2,848,162 2,822,662 2,893,811	39.1 38.7 39.7	660,000 660,000 660,000	2,188,162 2,162,662 2,233,811
James P. Gregory (4)	2,816,662	38.6	660,000	2,156,662
Marie S. Minton (5) GEF Optical Investment	2,816,662	38.6	660,000	2,156,662
Company, LLC (6) (8) Networking	2,816,662	38.6	660,000	2,156,662
Ventures, L.L.C. (7)(8) Nottingham Investment	2,816,662	38.6	660,000	2,156,662
Company (9) Global Environment Capital Co., LLC	125,000	1.7	125,000	0
("GECC") (8)(10) Global Environment Strategic Technology Partners, LLC	2,816,662	38.6	660,000	2,156,662
("GESTP") (8) (11)	2,816,662	38.6	660,000	2,156,662

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PLAN OF DISTRIBUTION

The Common Stock being offered by the selling stockholders may be sold in transactions on the OTC Bulletin Board, on another market on which the Common Stock may be trading, or in privately-negotiated transactions. The sale price to the public may be the market price prevailing at the time of sale, a price related to the prevailing market price or any other price the selling stockholders may determine. The Common Stock may also be sold under SEC Rule 144

and not under this prospectus. The selling stockholders have the discretion not to accept any purchase offer or make any sale of Common Stock if they deem the purchase price to be unsatisfactory at any particular time, or for any reason.

The selling stockholders may also sell the Common Stock directly to broker-dealers acting as principals and/or to broker-dealers acting as agents for themselves or their customers. Brokers acting as agents for the selling stockholders will receive usual and customary commissions for brokerage transactions, and broker-dealers acting as principals will do so for their own account at negotiated prices and at their own risk. It is possible that the selling stockholders will sell shares of Common Stock to broker-dealers or other purchasers at a price per share which may be below the then market price. In addition, the selling stockholders may enter into hedging transactions with broker-dealers who may engage in short sales of Common Stock in the course of hedging the positions they assume with a selling stockholder. The selling stockholders also may sell shares short and deliver the shares to close out their positions, and may loan or pledge their shares to a broker-dealer who may have the right to sell the loaned or pledged shares on default or otherwise. The selling stockholders and any brokers, dealers or agents, upon effecting the sale of any of the Common Stock offered hereby, may be deemed "underwriters" as that term is defined under the Securities Act or the Exchange Act, or the rules and regulations thereunder.

The selling stockholders and any other persons participating in the sale or distribution of the Common Stock will be subject to applicable provisions of the Exchange Act and its rules and regulations, which may limit the timing of purchases and sales of any of the Common Stock by the selling stockholders or other distribution participants. Furthermore, under Regulation M, persons engaged in a distribution of securities are prohibited from simultaneously engaging in market making and other activities with respect to such securities for a specified period of time before the commencement of distributions subject to specified exceptions or exemptions. This may affect the marketability of the Common Stock.

We have agreed to indemnify the selling stockholders against some important liabilities, including liabilities under the Securities Act, or to contribute to any payments these selling stockholders may be required to make in respect of these liabilities. We are paying the costs of this registration for the selling stockholders.

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LEGAL MATTERS

The legal issuance and fully paid and non-assessable status of our Common Stock offered by this prospectus was passed upon for us by our legal counsel, Whiteford, Taylor & Preston L.L.P., Baltimore, Maryland. Counsel's opinion is included as exhibit 5.1 to the registration statement of which this prospectus is a part.

EXPERTS

The financial statements incorporated in this prospectus by reference to our Annual Report on Form 10-KSB for the year ended December 30, 2001 have been so incorporated in reliance on the report of Stegman & Company, independent accountants, given on the authority of said firm as experts in auditing and accounting.

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ESSEX CORPORATION
Common Stock
PROSPECTUS
June, 2002

PART II

INFORMATION NOT REQUIRED IN PROSPECTUS

ITEM 14. OTHER EXPENSES OF ISSUANCE AND DISTRIBUTION.

The following table sets forth the fees and expenses in connection with the issuance and distribution of the securities being registered. Except for the SEC registration fee, all amounts are estimates.

SEC registration fee	\$	854
Accounting fees and expenses		4,000
Legal fees and expenses		12,500
Blue Sky fees and expenses (including counsel fees)		2,500
Printing expenses		500
Transfer agent's and registrar's fees and expenses		500
Miscellaneous expenses		200
Total	. \$	21,054

ITEM 15. INDEMNIFICATION OF DIRECTORS AND OFFICERS.

The Virginia Stock Corporation Act ("Act") permits indemnification of directors and officers of a corporation under certain conditions and subject to certain limitations. Articles (h) and (i) of Essex's Articles of Incorporation contain provisions for the indemnification of directors and officers of Essex within the limitations permitted by the Act. In addition, Essex has entered into indemnity agreements with all of its directors and officers which provide the maximum indemnification allowed by the Act.

ITEM 16. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES.

(a) Exhibits:

EXHIBIT	
NUMBER	DESCRIPTION

- 4.1 Specimen Stock Certificate*
- 5.1 Opinion of Whiteford, Taylor & Preston L.L.P.*
- 23.1 Consent of Independent Accountants
- 23.3 Consent of Whiteford, Taylor & Preston L.L.P. (included in Exhibit 5.1) *
- 24 Power of Attorney*
- 99.1 Securities Purchase Agreement dated March 15, 2001*

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- 99.2 Amendment No. 2 to Registration Rights Agreement dated March 15, 2001*
- 99.3 Securities Purchase Agreement dated December 4, 2000*
- 99.4 Amendment No. 1 to Registration Rights Agreement dated December 4, 2000*
- 99.5 Amendment to Securities Purchase Agreement, dated as of March 1, 2002, between Essex Corporation and the Hannon Family LLC*
- 99.6 Amendment to Securities Purchase Agreement, dated as of March 1, 2002, between Essex Corporation and Global Environment Strategic Technology Partners, L.P.*

(b) Financial Statement Schedules.

None.

^{*} Previously filed

ITEM 17. UNDERTAKINGS.

- (a) The undersigned Registrant hereby undertakes:
 - (1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:
 - (i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933.
 - (ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment to the registration statement) which, individually or when viewed together, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement.
 - (iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to the information in the registration statement. Provided, however, that paragraphs (a)(1)(i) and (a)(1)(ii) do not apply if the registration statement is on Form S-3 or Form S-8, and the information required to be included in a post-

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effective amendment by those paragraphs is contained in periodic reports filed by the registrant pursuant to Section 13 or Section 15(d) of the Securities and Exchange Act of 1934 that are incorporated by reference in the registration statement.

- (2) That, for the purpose of determining any liability under the Securities Act, each of these post-effective amendments shall be deemed to be a new registration statement relating to the securities being offered, and the offering of those securities at that time shall be deemed to be their initial bona fide offering.
- (3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.
- (b) The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an

employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities being offered, and the offering of those securities at that time shall be deemed to be their initial bona fide offering.

(c) Insofar as directors, officers and controlling persons of the Registrant are permitted to seek indemnification for liabilities arising under the Securities Act, under the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the Securities and Exchange Commission, this indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a director, officer or controlling person asserts a claim for indemnification against these types of liabilities in connection with the securities being registered, other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether indemnification by it under these circumstances is against public policy as expressed in the Securities Act and will be governed by the final adjudication of the issue.

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SIGNATURES

Pursuant to the requirements of the Securities Act, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form SB-2 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in Columbia, State of Maryland, on June 17, 2002.

ESSEX CORPORATION

By: /S/ LEONARD E. MOODISPAW

Leonard E. Moodispaw
President and Chief Executive Officer

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Pursuant to the requirements of the Securities Act, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

SIGNATURE TITLE DATE

/S/ H. JEFFREY LEONARD* Chairman of the Board June 17, 2002

H. Jeffrey Leonard

/S/ LEONARD E. MOODISPAW President, Chief Executive Officer, June 17, 2002

----- and Directors (principal executive Leonard E. Moodispaw officer)

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	Chief Financial Officer (principal financial and accounting	June 17, 2002	
Joseph R. Kurry, Jr.	officer)		
	Director	June 17, 2002	
John G. Hannon			
/S/ ROBERT W. HICKS*	Director	June 17, 2002	
Robert W. Hicks			
/S/ RAY M. KEELER*	Director	June 17, 2002	
Ray M. Keeler			
nay II. Rector	Director	Tuno 17 2002	
	Director	June 17, 2002	
Frank E. Manning			
/S/ MARIE S. MINTON*	Director	June 17, 2002	
Marie S. Minton			
/S/ CAROLINE S. PISANO*	Director	June 17, 2002	
Caroline S. Pisano			
/S/ TERRY M. TURPIN*	Director	June 17, 2002	
Terry M. Turpin			

 $^{^{\}star}$ pursuant to a power of attorney dated May 17, 2001 filed with Form S-3 (No. 333-61200)