As filed with the Securities and Exchange Commission on December 30, 1998
Registration No. 333-_____

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SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM S-8
REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933

LIGAND PHARMACEUTICALS INCORPORATED
(Exact name of registrant as specified in its charter)

DELAWARE	77-0160744
(State or other jurisdiction of incorporation or organization)	(IRS Employer Identification No.)

10275 SCIENCE CENTER DRIVE
SAN DIEGO, CALIFORNIA 92121
(Address of principal executive offices) (Zip Code)

1992 STOCK OPTION/STOCK ISSUANCE PLAN
1992 EMPLOYEE STOCK PURCHASE PLAN
(Full title of the plans)

DAVID E. ROBINSON
PRESIDENT AND CHIEF EXECUTIVE OFFICER
LIGAND PHARMACEUTICALS INCORPORATED
10275 SCIENCE CENTER DRIVE, SAN DIEGO, CALIFORNIA 92121
(Name and address of agent for service)
(619) 535-3900
(Telephone number, including area code, of agent for service)

CALCULATION OF REGISTRATION FEE

<TABLE>
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Title of Securities to be Registered	Amount to be Registered (1)	Proposed Maximum Offering Price per Share	Proposed Maximum Aggregate Offering Price	Amount of Registration Fee
<S>	<C>	<C>	<C>	<C>
1992 Stock Option/ Stock Issuance Plan				
Common Stock, par value $.001	785,000 shares	$10.50(2)	$8,242,500 (2)	$2,291.42
1992 Employee Stock Purchase Plan				
Common Stock, par value $.001	24,500 shares	$10.50(2)	$ 257,250 (2)	$ 71.52
Selling Stockholders				
Common Stock, par value $.001	29,079 shares(3)	$10.50(2)	$ 305,329.50(2)	$ 84.88

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		$2,447.82

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(1) This Registration Statement shall also cover any additional shares of Registrant's Common Stock which become issuable under the 1992 Stock Option/Stock Issuance Plan and the 1992 Employee Stock Purchase Plan, or which become issuable to the Selling Stockholders, by reason of any stock dividend, stock split, recapitalization or other similar transaction effected without the Registrant's receipt of consideration and which results in an increase in the number of the Registrant's outstanding shares of Common Stock.

(2) Calculated solely for purposes of this offering under Rule 457(h) and 457(c) of the Securities Act of 1933, as amended, on the basis of the average of the high and low selling prices per share of Registrant's Common Stock on December 24, 1998, as reported by the Nasdaq National Market.

(3) Such shares are being registered for the convenience of certain Selling Stockholders and any donees or pledgees to whom they may subsequently transfer the shares. The Selling Stockholders have informed the Company that they have no present intent to sell these shares at this time.

29,079 SHARES

LIGAND PHARMACEUTICALS INCORPORATED

COMMON STOCK

($.001 PAR VALUE)

This prospectus relates to the public offering, which is not being underwritten, of up to 29,079 shares of our common stock which some of our current stockholders hold.

The prices at which such stockholders may sell the shares will be determined by the prevailing market price for the shares or in negotiated transactions. We will not receive any of the proceeds from the sale of the shares.

Our common stock is quoted on the Nasdaq National Market under the symbol "LGND." On December 28, 1998, the average of the high and low price for our common stock was $11.00.

NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ADEQUACY OR ACCURACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this Prospectus is December 30, 1998

TABLE OF CONTENTS

<TABLE>
<CAPTION>

	PAGE

<S> <C>

</TABLE>

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly and special reports, proxy statements and other information with the SEC. You may read and copy any document we have on file at the SEC's public reference rooms in Washington, D.C., New York, New York and Chicago, Illinois. Please call the SEC at 1-800-SEC-0300 for further information about the public reference rooms. Our SEC filings are also available to the public at the SEC's web site at http://www.sec.gov.

DOCUMENTS WE ARE INCORPORATING BY REFERENCE

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 those documents. The information incorporated by reference is considered to be part of this prospectus, and later information filed with the SEC will update and supersede this information. We incorporate by reference the documents listed below and any future filings made with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934 until our offering is completed:

(a) Our Annual Report on Form 10-K for the year ended December 31, 1997, filed March 31, 1998;

(b) Our Quarterly Reports on Form 10-Q for the quarters ended March 31, 1998, June 30, 1998 and September 30, 1998, filed on May 15, 1998, August 14, 1998 and November 16, 1998;

(c) Our Current Reports on Form 8-K filed August 25, 1998 and September 25, 1998; and

(d) The description of our common stock which we have included in our registration statement on Form 8-A filed November 21, 1994, including any amendments or reports we file to update such description.

(e) The description of our Preferred Shares Rights Agreement contained in our registration statement on Form 8-A filed September 30, 1996 and as amended by Amendment No. 1 on Form 8-A and Amendment No. 2 on Form 8-A filed on November 10, 1998 and December 24, 1998, respectively, relating to the rights to purchase our Series A Participating Preferred Stock, including any amendments or reports we file to update such description.

You may request a copy of these filings, at no cost, by writing or telephoning us at the following address:

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, California 92121
Attn: Secretary
(619) 535-3900

You should rely only on the information incorporated by reference or provided in this prospectus or the prospectus supplement. We have authorized no one to provide you with different information. We are not making an offer of these securities in any state where the offer is not permitted. You should not assume that the information in this prospectus or the prospectus supplement is accurate as of any date other than the date on the front of this document.

THE COMPANY

Our principal executive offices are located at 10275 Science Center Drive, San Diego, California 92121. Our telephone number is (619) 535-3900.

RISKS AND UNCERTAINTIES

The following is a summary description of some of the many risks we face in our business. You should carefully review these risks in evaluating our business and the businesses of our subsidiaries: Glycomed, Inc., Seragen, Inc., Ligand Pharmaceuticals (Canada) Incorporated and Allergan Ligand Retinoid Therapeutics, Inc. You should also consider the other information set forth in this prospectus before you decide whether to invest.

UNCERTAINTY OF OUR PRODUCT DEVELOPMENT AND COMMERCIALIZATION

We were founded in 1987 and have not generated any revenues from the sale of products that we or our collaborative partners have developed. To become profitable, we must successfully develop, clinically test, market and sell our products. We do not expect that any products resulting from our product development efforts or the efforts of our collaborative partners will be available for sale until after the end of the 1998 calendar year, if at all. For instance, the Food and Drug Administration, commonly known as the FDA, or other foreign authorities may not approve ONTAK(TM), Panretin Gel(TM), Morphelan(TM) or any of our other potential products in a timely manner or at all. If we do not receive such approvals, our business could be adversely affected.

Most of our products will require extensive additional development, including preclinical testing and clinical trials, as well as regulatory approvals, before we can market them. There are many reasons that we may fail in our efforts to develop our potential products, including the possibility that:

- we may discover during preclinical testing or clinical trials that they are ineffective or cause harmful side effects,
- the products may fail to receive necessary regulatory approvals from the FDA or other foreign authorities in a timely manner or at all,
- we may fail to produce the products, if approved, in commercial quantities or at reasonable costs, or
- the proprietary rights of other parties may prevent us from marketing the products.

We also will rely, at least initially, on another company to distribute any of our products that are approved and have just recently begun to develop a sales force. Therefore, even if our potential products are approved for marketing, we still may not be able to successfully market the products in the territories chosen for marketing.

UNCERTAINTY OF OUR IR AND STAT TECHNOLOGY

To date, we have dedicated most of our resources to the research and development of potential drugs based upon our expertise in what we refer to as our "IR" and "STATs" technologies. IRs are hormone-activated intracellular receptors that play key roles in many diseases, including certain cancers, women's health and inflammatory disorders, and cardiovascular, metabolic and

skin diseases. STATs are cytokine-activated signal transducers and activators of transcription that similarly influence many biological processes, including cancer, metabolic diseases, inflammation and blood cell formation. Even though certain marketed drugs act through IRs, some aspects of our IR technologies have not been used to produce marketed products. In addition, we are not aware of any drugs that have been developed and successfully commercialized that interact directly with STATs. Much remains to be learned about the location and function of IRs and STATs. If we are unable to apply our IR and STAT technologies to the development of our potential products, our business could be adversely affected.

UNCERTAINTIES RELATED TO REGULATORY REVIEW OF OUR ONTAK, PANRETIN GEL AND MORPHELAN PRODUCTS

Generally, only a small percentage of new drugs are approved for sale. Moreover, if regulatory approval of a product is granted, the approval may limit the uses for which we may market the product. The FDA or other foreign authorities also may condition their approvals on our performance of additional clinical trials or other requirements. Even if regulatory approval is obtained, we will be subject to continual review by these authorities. If the FDA or foreign authorities discover any new problems with one of our products, they may further restrict the product's uses or require us to withdraw the product from the market. Also, before marketing any products, we must finalize labeling requirements and satisfy the regulatory authorities that all manufacturing facilities meet regulatory requirements.

We cannot be certain that the FDA will approve our ONTAK and Panretin Gel products in a timely manner, and we do not expect that these products will be available for sale until after the end of the 1998 calendar year, if at all. In November 1998, the FDA issued an "approvable" letter for Panretin Gel, a gel product for the treatment of certain lesions in patients with AIDS-related Kaposi's sarcoma. Before we receive the FDA's final approval for Panretin, we must submit additional information about Panretin Gel to the FDA and agree with the FDA about labeling.

In December 1997, our subsidiary, Seragen, Inc., applied to the FDA for clearance to market ONTAK. ONTAK is a molecule Seragen developed for the treatment of patients with certain advanced forms of lymphoma who have received previous treatment with other drugs. On June 2, 1998, we announced that an FDA advisory committee had voted favorably on questions the FDA asked the committee to consider about the safety and effectiveness of ONTAK. The committee also recommended that treating physicians should decide the appropriate doses within a prescribed dose range.

On June 9, 1998, an FDA division issued a letter concerning Seragen's application for ONTAK that summarized the application's deficiencies and described the actions necessary to obtain approval. The letter tolled the six-month period within which the FDA must review the application until Seragen addresses all of the deficiencies noted in the letter. The letter identified certain deficiencies related to safety, effectiveness, manufacturing and product characterization. Seragen believes it addressed and responded to the issues set out in the letter and is waiting for final FDA action. Before Seragen receives the FDA's final approval for ONTAK, however, Seragen may need to submit additional information about ONTAK to the FDA and agree with the FDA about labeling.

In addition, Elan Corporation, plc, has licensed to us the right to sell and license Morphelan in the United States and Canada for cancer and HIV pain management uses. Morphelan is currently undergoing clinical trials. Under the agreement granting us rights to Morphelan, both we and Elan must provide clinical data to support a new drug application to be filed with the FDA for Morphelan. Elan, however, is ultimately responsible for filing and prosecuting the application for Morphelan.

We may not obtain the FDA's final approval for ONTAK, Panretin Gel or Morphelan in a timely manner. Our short-term future financial results and the price of our common stock depend on the timely receipt of approvals to market

these products as well as our ability to successfully commercialize these products. If we do not receive the required regulatory approvals on a timely basis, our business and the trading price of our common stock could be adversely affected.

OUR HISTORY OF OPERATING LOSSES AND ACCUMULATED DEFICIT

We have incurred significant losses since our inception in 1987. At September 30, 1998, our accumulated deficit was approximately $355.0 million. To date, we have received almost all of our revenues from our collaborative arrangements. We expect to incur additional losses as we continue our research and development, testing and regulatory activities and as we establish manufacturing and marketing capabilities.

OUR FUTURE CAPITAL NEEDS AND UNCERTAINTY OF ADDITIONAL FUNDING

Our drug development programs require substantial capital expenses, including expenses to:

- conduct research, preclinical testing and clinical trials,
- establish pilot scale and commercial scale manufacturing processes and facilities, and
- establish and develop quality control, regulatory, marketing, sales and administrative capabilities.

Our future capital needs will depend on many factors, including:

- the pace of scientific progress in our research and development programs and the magnitude of these programs,
- the scope and results of preclinical testing and clinical trials,
- the time and costs involved in obtaining regulatory approvals,
- the time and costs involved in preparing, filing, prosecuting, maintaining and enforcing patent claims,
- competing technological and market developments,
- our ability to establish additional collaborations,
- changes in our existing collaborations,
- the cost of manufacturing scale-up, and
- the effectiveness of our commercialization activities.

To date, we have not generated any revenue from the sales of products we or our collaborative partners have developed. We may not be able to successfully develop, manufacture or market any products or ever achieve profitability. Moreover, even if we achieve profitability, we cannot predict the level of that profitability. We expect that our operating results will fluctuate from quarter to quarter as a result of differences in when we incur expenses and receive revenues from collaborative arrangements and other sources. Some of these fluctuations may be significant. We believe that our existing sources of funding will be adequate to satisfy our anticipated capital needs through 1999.

One of our subsidiaries, Glycomed, Inc., is obligated to make payments under certain debentures in the total principal amount of $50.0 million. The debentures bear interest at a rate of 7 1/2% per annum and are due in 2003.

Glycomed may not have the funds necessary to pay the interest on and the principal of these debentures when due. If Glycomed does not have adequate funds, it will be forced to refinance the debentures and may not be successful in doing so. In addition, in November 1998, we issued notes with a total issue price of $40.0 million to Elan Corporation, plc. Glycomed's failure to make payments when due under its debentures would cause us to default under the notes we have issued or may issue to Elan.

We have incurred losses since our inception and do not expect to generate positive cash flow to fund our operations for the 1999 calendar year and perhaps for one or more subsequent years. As a result, we may need to complete additional equity or debt financings in the near future to fund our operations. These financings may not be available on acceptable terms. In addition, these financings, if completed, still may not meet our capital needs and could result in substantial dilution to our stockholders. For instance, the notes we issued to Elan are convertible into common stock at the option of Elan, subject to some limitations. In addition, we may issue additional notes to Elan with up to a total issue price of $70.0 million, which also would be convertible into common stock. If adequate funds are not available, we may be required to delay, reduce the scope of or eliminate one or more of our drug development programs. Alternatively, we may be forced to attempt to continue development by entering into arrangements with collaborative partners or others that require us to relinquish some or all of our rights to certain technologies or drug candidates that we would not otherwise relinquish. Our inability to obtain additional financing or to satisfy our obligations or the obligations of our subsidiaries under outstanding indebtedness could adversely affect our business.

UNCERTAINTIES RELATED TO OUR CLINICAL TRIALS

Before we obtain the approvals necessary to sell any of our potential products, we must show through preclinical studies and clinical trials that each product is safe and effective. The clinical trials process is complex and uncertain. The results of preclinical studies and initial clinical trials may not necessarily predict the results from later large-scale clinical trials. In addition, clinical trials may not demonstrate a product's safety and effectiveness to the satisfaction of the regulatory authorities. A number of companies have suffered significant setbacks in advanced clinical trials or in seeking regulatory approvals, despite promising results in earlier trials. Our failure to show any product's safety and effectiveness would delay or prevent regulatory approval of the product and could adversely affect our business. The FDA may also require additional clinical trials, which could be expensive and time-consuming.

The rate at which we complete our clinical trials depends on many factors, including our ability to obtain adequate clinical supplies and patient enrollment. Patient enrollment is a function of many factors, including the size of the patient population, the proximity of patients to clinical sites and the eligibility criteria for the trial. Delays in patient enrollment may result in increased costs and longer development times. In addition, some of our collaborative partners have rights to control product development and clinical programs for products developed under the collaborations. As a result, these collaborators may conduct these programs more slowly or in a different manner than we had expected. Even if clinical trials are completed, we or our collaborative partners still may not apply for FDA approval in a timely manner or the FDA still may not grant approval.

OUR RELIANCE ON COLLABORATIVE RELATIONSHIPS

Our strategy for developing and commercializing many of our potential products includes entering into collaborations with corporate partners, licensors, licensees and others. To date, we have entered into collaborations with Eli Lilly and Company, SmithKline Beecham plc, American Home Products Corporation, Abbott Laboratories, Sankyo Company, Ltd., Glaxo-Wellcome, plc, Allergan, Inc. and Pfizer Inc. These collaborations provide us with funding and research and development resources for potential products for the treatment or control of metabolic diseases, hematopoiesis, women's health disorders,

inflammation, cardiovascular disease, cancer and skin disease, and osteoporosis. These agreements also give our collaborative partners significant discretion when deciding whether or not to pursue any development program. We cannot be certain that our collaborations will continue or be successful.

In addition, our collaborators may develop drugs, either alone or with others, that compete with the types of drugs they currently are developing with us. This would result in less support and increased competition for our programs. If products are approved for marketing under our collaborative programs, any revenues we receive will depend on the manufacturing, marketing and sales efforts of our collaborators, who generally retain commercialization rights under the collaborative agreements. Our current collaborators also generally have the right to terminate their collaborations under certain circumstances. If any of our collaborative partners breach or terminate their agreements with us or otherwise fail to conduct their collaborative activities successfully, our product development under these agreements will be delayed or terminated. The delay or termination of any of the collaborations could adversely affect our business.

We may have disputes in the future with our collaborators, including disputes concerning who owns the rights to any technology developed. For instance, we were involved in litigation with Pfizer, Inc., which we settled in April 1996, concerning our right to milestones and royalities based on the development and commercialization of droloxifene. These and other possible disagreements between us and our collaborators could delay our ability and the ability of our collaborators to achieve milestones or our receipt of other payments. In addition, any disagreements could delay, interrupt or terminate the collaborative research, development and commercialization of certain potential products, or could result in litigation or arbitration. The occurrence of any of these problems could be time-consuming and expensive and could adversely affect our business.

UNCERTAINTY OF OUR PATENT PROTECTION AND DEPENDENCE ON PROPRIETARY TECHNOLOGY

Our success will depend on our ability and the ability of our licensors to obtain and maintain patents and proprietary rights for our potential products and to avoid infringing the proprietary rights of others, both in the

United States and in foreign countries. We own or have exclusive rights to more than 130 currently pending patent applications in the United States relating to our technology and/or potential products, as well as similar foreign applications in many countries. Patents may not be issued from any of these applications or, if issued, may not provide sufficient protection. In addition, if we breach our licenses, we may lose rights to important technology and potential products.

Our patent position, like that of many pharmaceutical companies, is uncertain and involves complex legal and technical questions for which important legal principles are unresolved. We may not develop or obtain rights to products or processes that are patentable. Even if we do obtain patents, they may not adequately protect the technology we own or have licensed. In addition, others may challenge, seek to invalidate, infringe or circumvent any patents we own or license, and rights we receive under those patents may not provide competitive advantages to us. Further, the manufacture, use or sale of our products may infringe the patent rights of others.

Several drug companies and research and academic institutions have developed technologies, filed patent applications or received patents for technologies that may be related to our business. Others have filed patent applications and received patents that conflict with patents or patent applications we have licensed for our use, either by claiming the same methods or compounds or by claiming methods or compounds that could dominate those licensed to us. In addition, we may not be aware of all patents or patent applications that may impact our ability to make, use or sell any of our potential products. For example, United States patent applications are confidential while pending in the Patent and Trademark Office, and patent applications filed in foreign countries are often first published six months or more after filing. Any conflicts resulting from the patent rights of others could significantly reduce the coverage of our patents and limit our ability to

obtain meaningful patent protection. If other companies obtain patents with conflicting claims, we may be required to obtain licenses to those patents or to develop or obtain alternative technology. We may not be able to obtain any such license on acceptable terms or at all. Any failure to obtain such licenses could delay or prevent us from pursuing the development or commercialization of our potential products, which would adversely affect our business.

We have had and will continue to have discussions with our current and potential collaborators regarding the scope and validity of our patent and other proprietary rights. If a collaborator or other party successfully establishes that our patent rights are invalid, we may not be able to continue our existing collaborations beyond their expiration. Any determination that our patent rights are invalid also could encourage our collaborators to terminate their agreements where contractually permitted. Such a determination could also adversely affect our ability to enter into new collaborations.

We may also need to initiate litigation, which could be time-consuming and expensive, to enforce our proprietary rights or to determine the scope and validity of others' rights. If litigation results, a court may find our patents or those of our licensors invalid or may find that we have infringed on a competitor's rights. If any of our competitors have filed patent applications in the United States which claim technology we also have invented, the Patent and Trademark Office may require us to participate in expensive interference proceedings to determine who has the right to a patent for the technology.

We have learned that Hoffman LaRoche, Inc. has received a United States patent and has made patent filings in foreign countries that relate to our Panretin capsules and gel products. We filed a patent application with an earlier filing date than Hoffman LaRoche's patent, which we believe is broader than, but overlaps in part with, Hoffman LaRoche's patent. We currently are investigating the scope and validity of Hoffman LaRoche's patent to determine its impact upon our products. The Patent and Trademark Office has informed us that the overlapping claims are patentable to us and has initiated a proceeding to determine whether we or Hoffman LaRoche are entitled to a patent. We may not receive a favorable outcome in the proceeding. In addition, the proceeding may delay the Patent and Trademark Office's decision regarding our earlier application. While we believe that the Hoffman LaRoche patent does not cover the use of Panretin capsules and gel for most of our planned uses, if we do not prevail, the Hoffman LaRoche patent might block our use of Panretin capsules and gel in certain cancers.

We also rely on unpatented trade secrets and know-how to protect and maintain our competitive position. We require our employees, consultants, collaborators and others to sign confidentiality agreements when they begin their relationship with us. These agreements may be breached and we may not have adequate remedies for any

breach. In addition, our competitors may independently discover our trade secrets. Any of these actions might adversely affect our business.

OUR LACK OF MANUFACTURING CAPABILITY AND RELIANCE ON THIRD-PARTY MANUFACTURERS

To be successful, we will need to manufacture our products, either directly or through others, in commercial quantities, in compliance with regulatory requirements and at acceptable cost. We currently have no manufacturing facilities and rely on others for clinical or commercial production of our potential products. If we are unable to develop our own facilities or contract with others for manufacturing services, our ability to conduct preclinical testing and human clinical trials will be adversely affected. This in turn could delay our submission of products for regulatory approval and our initiation of new development programs. In addition, although other companies have manufactured drugs acting through IRs and STATs on a commercial scale, we may not be able to do so at costs or in quantities to make marketable products. Any of these events would adversely affect our business.

Our manufacturing process also may be susceptible to contamination, which could cause the affected manufacturing facility to close until the contamination is identified and remediated. In addition, problems with equipment

failure or operator error also could cause delays. Any extended and unplanned manufacturing shutdowns could be expensive and could result in inventory and product shortages.

Under a service agreement which expires January 31, 1999, our subsidiary, Seragen, Inc., depends on Marathon Biopharmaceuticals, LLC to provide certain services relating to product research, development, manufacturing, clinical trials, quality control and quality assurance. Under the terms of the service agreement, Seragen must reimburse Marathon, or an affiliate of Marathon, for any annual losses that exceed $9.0 million. If Seragen fails to comply with the payment or any other terms in the service agreement, our business could be adversely affected. In addition, neither Seragen nor Marathon previously have engaged in large-scale manufacturing.

OUR LIMITED SALES AND MARKETING CAPABILITY

Developing the sales force to market and sell products is a difficult, expensive and time-consuming process. To market any of our products directly, we will need to develop a marketing and sales force with technical expertise and distribution capability or contract with other companies with distribution systems and direct sales forces. We have only recently begun to develop a sales force and will, at least initially, rely on another company to distribute any of our products that are approved. The distributor will be responsible for providing many marketing support services, including customer service, order entry, shipping and billing, and customer reimbursement assistance. In addition, in Canada we are the sole distributor of two cancer products other companies have developed. We may not be able to continue to establish and maintain the necessary sales and marketing capabilities. To the extent we enter into co-promotion or other licensing arrangements, any revenues we receive will depend on the marketing efforts of others, which may or may not be successful. Our failure to establish a sales force, either directly or through others, could adversely affect our business.

SUBSTANTIAL COMPETITION AND RISK OF TECHNOLOGICAL OBSOLESCENCE

Some of the drugs that we are developing will compete with existing treatments. In addition, several companies are developing new drugs that target the same diseases that we are targeting and are taking IR-related and STAT-related approaches to drug development. Many of our existing or potential competitors, particularly large drug companies, have greater financial, technical and human resources than us and may be better equipped to develop, manufacture and market products. Many of these companies also have extensive experience in preclinical testing and human clinical trials, obtaining FDA and other regulatory approvals and manufacturing and marketing pharmaceutical products. In addition, academic institutions, governmental agencies and other public and private research organizations are developing products that may compete with the products we are developing. These institutions are becoming more aware of the commercial value of their findings and are seeking patent protection and licensing arrangements to collect payments for the use of their technologies. These institutions also may market competitive products on their own or through joint ventures and will compete with us in recruiting highly qualified scientific personnel. Any of these companies, academic institutions, government agencies or research organizations

may develop and introduce products and processes that compete with or are better than ours. As a result, our products may become noncompetitive or obsolete.

The products we are developing target a broad range of markets. Our ability to compete will depend on the uses for which our products are developed and ultimately approved by regulatory authorities. For some of our potential products, an important factor in competition may be the timing of market introduction. Important competitive factors include the speed at which we develop products, complete the clinical trials and regulatory approval processes, and commercialize the products. In addition, we expect that competition among products approved for sale will be based on product safety, effectiveness, reliability, availability, price and patent position. Our competitive position also will depend on whether we can attract and retain qualified personnel, obtain patent protection or otherwise develop proprietary

products or processes, and secure sufficient capital resources.

EXTENSIVE GOVERNMENT REGULATION AND NO ASSURANCE OF REGULATORY APPROVAL

The FDA and foreign regulatory authorities require rigorous preclinical testing, clinical trials and other approval procedures for human pharmaceutical products. Numerous regulations also govern the manufacturing, safety, labeling, storage, record keeping, reporting and marketing of these products. The requirements vary widely from country to country, and the time required to complete preclinical testing and clinical trials and to obtain regulatory approval is uncertain. These processes can take many years and require the expenditure of substantial resources. If we replace a compound in testing with a modified compound, it may extend the development period. In addition, we may encounter delays or rejections based upon changes in FDA policy during the period of product development and FDA review. We also may encounter similar delays in other countries.

Even after expending time and funds, we still may not receive regulatory approval for any products we develop. Moreover, before receiving FDA or foreign authority approval to market our products, we may be required to demonstrate that our products represent better or more cost-effective forms of treatment than existing treatments. If the FDA or foreign regulatory authorities grant approval of a product, the approval may impose limitations on the uses for which we may market the product. Further, even if we obtain regulatory approval, we will be subject to continual review and periodic inspections. If the FDA or foreign regulatory authorities discover new problems with a product, they may impose additional restrictions or require us to withdraw the product from the market.

OUR DEPENDENCE ON THIRD-PARTY REIMBURSEMENT AND HEALTH CARE REFORM

The efforts of governments and third party payors to contain or reduce the cost of health care will continue to affect the business and financial condition of drug companies. A number of legislative and regulatory proposals to change the health care system have been discussed in recent years. In addition, an increasing emphasis on managed care in the United States has and will continue to increase pressure on drug pricing. While we cannot predict whether legislative or regulatory proposals will be adopted or what effect those proposals or managed care efforts may have on our business, the announcement and/or adoption of such proposals or efforts could adversely affect our profit margins and business.

Sales of prescription drugs depend significantly on the availability of reimbursement to the consumer from third party payors, such as government and private insurance plans. These third party payors frequently require drug companies to provide predetermined discounts from list prices, and they are increasingly challenging the prices charged for medical products and services. If we succeed in bringing one or more products to the market, these products may not be considered cost-effective and reimbursement to the consumer may not be available or sufficient to allow us to sell our products on a competitive basis.

OUR PRODUCT LIABILITY AND INSURANCE RISKS

Our business exposes us to potential product liability risks. Some of the compounds we are investigating may be harmful to humans. For example, retinoids as a class are known to contain compounds which can cause birth defects. We have arranged to increase our product liability insurance coverage in connection with the planned launch of two of our potential products; however, we may not be able to maintain our insurance on acceptable terms, or our insurance may not provide adequate protection in the case of a product liability claim. We expect to purchase

additional insurance when more of our products progress to a later stage of development and if we license any rights to use later-stage products in the future. To the extent that product liability insurance, if available, does not cover potential claims, we will be required to self-insure the risks associated with such claims. A successful product liability claim or series of claims brought against us could adversely affect our business.

OUR DEPENDENCE ON KEY EMPLOYEES

We depend on our key scientific and management staff, the loss of whose services could adversely affect our business. Furthermore, we are currently experiencing a period of rapid growth which requires us to hire many new scientific, management and operational personnel. Accordingly, recruiting and retaining qualified management, operations and scientific personnel to perform research and development work also is critical to our success. Although we believe we will successfully attract and retain the necessary personnel, we may not be able to attract and retain such personnel on acceptable terms given the competition among numerous drug companies, universities and other research institutions for such personnel.

OUR USE OF HAZARDOUS MATERIALS

In connection with our research and development activities, we handle hazardous materials, chemicals and various radioactive compounds. For example, as we previously mentioned, retinoids as a class are known to contain compounds which can cause birth defects. Although we believe that our current safety procedures for handling and disposing of such materials comply with the federal and state standards, we cannot completely eliminate the risk of accidental contamination or injury from these materials. In the event of any accident, we could be held liable for any damages that result, which could be significant. In addition, we may incur substantial costs to comply with environmental regulations. Any of these events could adversely affect our business.

VOLATILITY OF OUR STOCK PRICE

The market prices and trading volumes for our securities, and the securities of emerging companies like us, have historically been highly volatile and have experienced significant fluctuations unrelated to operating performance. Future announcements concerning us or our competitors may impact the market price of our common stock. These announcements might include the results of research, development testing, technological innovations, new commercial products, government regulation, receipt of regulatory approvals by competitors, our failure to receive regulatory approvals, developments concerning proprietary rights, litigation or public concern about the safety of the products.

ABSENCE OF CASH DIVIDENDS

We have not paid any cash dividends on our common stock to date, and we do not anticipate paying cash dividends in the foreseeable future.

EFFECT OF OUR SHAREHOLDER RIGHTS PLAN AND CERTAIN ANTI-TAKEOVER PROVISIONS

In September 1996, our board of directors adopted a preferred shares rights plan which provides for a distribution of one preferred share purchase right for each outstanding share of our common stock. Each preferred share purchase right entitles our stockholders to buy 1/1000th of a share of our Series A Participating Preferred Stock at a purchase price of $100. In addition, depending on the circumstance, the purchase rights may become exercisable for a number of common shares having a value equal to two times the purchase price and/or common stock of certain acquiring companies having a value equal to two times the purchase price. The purchase rights become exercisable after any person announces their intent to or acquires 20% or more of our common stock. We are entitled to buy back the purchase rights at a price of $0.01 per right at any time before the earlier of ten days following the acquisition and September 13, 2006. In connection with our transactions with Elan Corporation, plc, we amended our rights plan to exclude Elan's ownership of our securities, in certain circumstances, from the operation of the plan.

Our certificate of incorporation requires the holders of 66 2/3% of our voting stock to approve certain mergers or other business transactions with any holder of 15% or more of our voting stock, except in cases where our directors approve the transaction or minimum price criteria and other procedural requirements are met. In addition, our bylaws require that any action that our stockholders are required or permitted to take be taken at a duly

called annual or special stockholders meeting and not by any consent in writing. Our bylaws further provide that only our board of directors, chairman of the board or president or persons holding at least 10% of our outstanding common stock may call a special stockholders' meeting. Our bylaws also require that our stockholders give us advance notice of any director nominations or other business they intend to raise at any stockholders meeting and require the vote of holders of 66 2/3% of our voting stock to amend certain bylaw provisions.

The provisions contained in our rights plan, certificate of incorporation and bylaws may discourage transactions involving an actual or potential change in our ownership, including transactions in which our stockholders might otherwise receive a premium for their shares over then-current market prices. These provisions also may limit the ability of our stockholders to approve transactions that they may deem to be in their best interests. In addition, our board of directors may issue shares of preferred stock without action by our stockholders. Such issuances may have the effect of delaying or preventing a change in our ownership.

YEAR 2000 COMPLIANCE

Many currently installed computer systems and software products are coded to accept only two digit entries in the date code field. These date code fields will need to accept four digit entries to distinguish 21st century dates from 20th century dates. As a result, many companies may need to upgrade or replace their software and computer systems to comply with such "Year 2000" requirements. The impact of the Year 2000 issue may affect other systems that utilize imbedded computer chip technology, including, but not limited to, building controls, security systems or laboratory equipment. It may also impact the ability to obtain products or services if the provider encounters and fails to resolve "Year 2000" related problems.

We have established an active program to identify and resolve Year 2000 related issues. This program includes the review and assessment of information technology and non-information technology systems, as well as third parties with which we have a material relationship. This program consists of four phases: inventory, risk assessment, problem validation, and problem resolution. The inventory phase identified potential risks we face. They include, but are not limited to, computer software, computer hardware, telecommunications systems, laboratory equipment, facilities systems (security, environment control, alarm), service providers (contract research organizations, consultants, product distribution), and other third parties. The risk assessment phase categorized and prioritized each risk by its potential impact. The problem validation phase tests each potential risk, according to priority, to determine if an action risk exists. In the case of critical third parties, this step will include a review of their Year 2000 plans and activities. The problem resolution phase will, for each validated risk, determine the method/strategy for alleviating the risk. It may include anything from replacing hardware or software to selecting alternative vendors. This step also includes developing contingency plans.

We initiated this program earlier in the year and are currently working on the problem validation phase. We expect that we will complete this phase by the end of 1998, at which time we will determine contingency plans. We expect that we will complete the problem resolution phase by the end of the third quarter in 1999. To date, we have determined that some of our internal information technology and non-information technology systems are not Year 2000 compliant. In addition, we have not completed our full assessment of the critical third-party service providers we utilize. This assessment is taking place as part of the current problem validation phase.

We are actively correcting problems as we identify them. These corrections include replacing hardware and software systems, identifying alternative service providers, and creating contingency plans. We currently estimate that the cost of identified problems will be approximately $100,000 for hardware and software upgrades or modifications. In addition, we estimate that we will incur approximately $400,000 of internal personnel costs to complete the remaining phases of the project. We do not believe that the cost of these actions will have a material adverse affect on our business. We expect that we will be able to resolve any problems we identify in the remaining phases of the project as part of normal operating expenses.

Any failure of our internal computer systems or of third-party equipment or software we use, or of systems our suppliers use, to be Year 2000 compliant may adversely affect our business. In addition, adverse changes in the purchasing patterns of our potential customers as a result of Year 2000 issues affecting them may adversely affect

our business. These expenditures by potential customers may result in reduced funds available to purchase our products, which could adversely effect our business.

SELLING STOCKHOLDERS

The table below sets forth (i) the name of each selling stockholder and his or her position, (ii) the number of shares of common stock owned by each of the selling stockholders as of December 21, 1998, (iii) the number of shares to be sold pursuant to this offering, (iv) the number of shares of common stock to be retained by each selling stockholder if all the shares offered hereby are in fact sold, and (v) the percentage of the outstanding common stock that each selling stockholder will own if all the shares offered hereby are sold. The shares were issued to the selling stockholders under our 1992 Employee Stock Purchase Plan. In addition to the named selling stockholders, certain unnamed non-affiliate stockholders, each of whom holds less than the lesser of 1,000 shares or one percent of the shares issuable under the 1992 Employee Stock Purchase Plan and each of whom may sell up to that amount, may use this prospectus for reoffers and resales.

The shares offered by this prospectus may be offered from time to time by the selling stockholders named below:

<TABLE>
<CAPTION>

NAME OF STOCKHOLDER	NUMBER OF SHARES OWNED BEFORE OFFERING	NUMBER OF SHARES OFFERED FOR SALE IN OFFERING	NUMBER OF SHARES TO BE OWNED AFTER OFFERING	PERCENTAGE OF OUTSTANDING COMMON STOCK OWNED AFTER OFFERING
<S>	<C>	<C>	<C>	<C>
Russell L. Allen Vice President, Corporate Development and Strategic Planning	542	622	1,164	*%
Susan E. Atkins, Vice President, Investor Relations and Corporate Communications	5,739	633	6,372	*%
Howard T. Holden, Vice President, Regulatory Affairs and Compliance	2,657	347	3,004	*%
Paul V. Maier, Vice President and Chief Financial Officer	8,320	943	9,263	*%

</TABLE>

- ----------

* Less than 1%

PLAN OF DISTRIBUTION

We are registering all 29,079 shares of our common stock on behalf of certain selling stockholders, including certain unnamed non-affiliate stockholders who hold less than the lesser of 1,000 shares or one percent of the shares issuable under our 1992 Employee Stock Purchase Plan, and any persons to whom the selling stockholders may transfer those shares by way of gift, donation or pledge after the date of this prospectus. Such persons will also be treated as selling stockholders for purposes of this prospectus. All of the shares were originally issued by us under our 1992 Employee Stock Purchase Plan. We will receive no proceeds from this offering. The selling stockholders may sell the shares from time to time. The selling stockholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. The sales may be made on one or more exchanges or in the over-the-counter market or otherwise, at prices and at terms then prevailing or at prices related to the then current market price, or in negotiated transactions.

The selling stockholders may effect such transactions by selling the shares to or through broker-dealers. The shares may be sold by one or more of, or a combination of, the following transactions:

- a block trade in which the broker-dealer engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction,

- purchases by a broker-dealer as principal and resale by such broker-dealer for its account pursuant to this prospectus,

- an exchange distribution in accordance with the rules of such exchange,

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers,

- through put or call option transactions relating to the shares, and

- in privately negotiated transactions.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. In effecting sales, broker-dealers engaged by the selling stockholders may arrange for other broker-dealers to participate in the resales.

The selling stockholders may enter into hedging transactions with broker-dealers or other financial institutions in connection with distributions of the shares or otherwise. In such transactions, the broker-dealers or other financial institutions may engage in short sales of the shares in the course of hedging the positions they assume with the selling stockholders. The selling stockholders may also sell shares short and redeliver the shares to close out such short positions. The selling stockholders may enter into option or other transactions with broker-dealers which require the delivery to the broker-dealer of the shares. The broker-dealer may then resell or otherwise transfer such shares pursuant to this prospectus. The selling stockholders also may loan or pledge the shares to a broker-dealer. The broker-dealer may sell the shares so loaned, or upon a default, the broker-dealer may sell the pledged shares pursuant to this prospectus.

Broker-dealers or agents may receive compensation in the form of commissions, discounts or concessions from selling stockholders. Broker-dealers or agents may also receive compensation from the purchasers of the shares for whom they act as agents or to whom they sell as principals, or both. Compensation as to a particular broker-dealer might be in excess of customary commissions and will be in amounts to be negotiated in connection with the sale. Broker-dealers or agents and any other participating broker-dealers or the selling stockholders may be deemed to be "underwriters" within the meaning of Section 2(11) of the Securities Act of 1933, as amended (the "1933 Act") in connection with sales of the shares. Accordingly, any such commission, discount or concession received by them and any profit on the resale of the shares

purchased by them may be deemed to be underwriting discounts or commissions under the 1933 Act. Because selling stockholders may be deemed to be "underwriters" within the meaning of Section 2(11) of the 1933 Act, the selling stockholders will be subject to the prospectus delivery requirements of the 1933 Act. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 promulgated under the 1933 Act may be sold under Rule 144 rather than pursuant to this prospectus. The selling stockholders have advised us that they have not entered in any agreements, understandings or arrangements with any underwriters or broker-dealers regarding the sale of their securities. No underwriter or coordinating broker is acting in connection with the proposed sale of shares by selling stockholders.

The shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states the shares may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and complied with.

Under applicable rules and regulations under the Securities Exchange Act of 1934, as amended (the "1934 Act"), any person engaged in the distribution of the shares may not simultaneously engage in market making activities with respect to our common stock for a period of two business days prior to the commencement of such distribution. In addition, each selling stockholder will be subject to applicable provisions of the 1934 Act and the associated rules and regulations under the 1934 Act, including Regulation M, which provisions may limit the timing of purchases and sales of shares of our common stock by the selling stockholders. We will make copies of this prospectus available to the selling stockholders and have informed them of the need for delivery of copies of this prospectus to purchasers at or prior to the time of any sale of the shares.

We will file a supplement to this prospectus, if required, pursuant to Rule 424(b) under the 1933 Act upon being notified by a selling stockholder that any material arrangement has been entered into with a broker-dealer for the sale of shares through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer. Such supplement will disclose:

- the name of each such selling stockholder and of the participating broker-dealer(s),
- the number of shares involved,
- the price at which such shares were sold,
- the commissions paid or discounts or concessions allowed to such broker-dealer(s), where applicable,
- that such broker-dealer(s) did not conduct any investigation to verify the information set out or incorporated by reference in this prospectus, and
- other facts material to the transaction.

In addition, if we are notified by a selling stockholder that a donee or pledgee intends to sell more than 500 shares, we will file a supplement to this prospectus naming that donee or pledgee.

We will bear all costs, expenses and fees in connection with the registration of the shares. The selling stockholders will bear all commissions and discounts, if any, attributable to the sales of the shares. The selling stockholders may agree to indemnify any broker-dealer or agent that participates in transactions involving sales of the shares against certain liabilities, including liabilities arising under the 1933 Act.

PART II

INFORMATION REQUIRED IN THE REGISTRATION STATEMENT

ITEM 3. INCORPORATION OF DOCUMENTS BY REFERENCE

Ligand Pharmaceuticals Incorporated (the "Registrant") hereby incorporates by reference into this Registration Statement the following documents previously filed with the Securities and Exchange Commission (the "SEC"):

(a) The Registrant's Annual Report on Form 10-K for the fiscal year ended December 31, 1997, filed with the SEC on March 31, 1998;

(b) The Registrant's Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 1998, June 30, 1998, and September 30, 1998, filed with the SEC on May 15, 1998, August 14, 1998 and November 16, 1998;

(c) The Registrant's Current Reports on Form 8-K filed with the SEC on August 25, 1998 and September 25, 1998; and

(d) The description of the Registrant's Common Stock, par value $.001 per share, contained in the Company's Registration Statement on Form 8-A filed with the SEC on November 21, 1994, including any amendments or reports filed to update such description.

(e) The description of the Registrant's Preferred Shares Rights Agreement contained in the Registrant's registration statement on Form 8-A filed September 30, 1996 and amended by Amendment No. 1 on Form 8-A and Amendment No. 2 on Form 8-A filed on November 10, 1998 and December 24, 1998, respectively, relating to the rights to purchase the Registrant's Series A Participating Preferred Stock, including any amendments or reports filed to update such description.

All reports and definitive proxy or information statements filed pursuant to Section 13(a), 13(c), 14 or 15(d) of the 1934 Act after the date of this Registration Statement and prior to the filing of a post-effective amendment which indicates that all securities offered hereby have been sold or which deregisters all securities then remaining unsold shall be deemed to be incorporated by reference into this Registration Statement and to be a part hereof from the date of filing of such documents. Any statement contained in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for purposes of this Registration Statement to the extent that a statement contained herein or in any subsequently filed document which also is deemed to be incorporated by reference herein modifies or supersedes such statement. Any such statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this Registration Statement.

ITEM 4. DESCRIPTION OF SECURITIES

Not Applicable.

ITEM 5. INTERESTS OF NAMED EXPERTS AND COUNSEL

Not Applicable.

ITEM 6. INDEMNIFICATION OF DIRECTORS AND OFFICERS

(a) Section 145 of the Delaware General Corporation Law permits indemnification of officers and directors of the Registrant under certain conditions and subject to certain limitations. Section 145 of the Delaware General Corporation Law also provides that a corporation has the power to purchase and maintain insurance on behalf of its officers and directors against any liability asserted against such person and incurred by him or her in such

capacity, or arising out of his or her status as such, whether or not the corporation would have the power to indemnify him or her against such liability under the provisions of Section 145 of the Delaware General Corporation Law.

(b) Article VII, Section 1 of the Registrant's Bylaws provides that the Registrant shall indemnify its officers, directors, employees and agents to the full extent permitted by the General Corporation Law of Delaware. The rights to indemnity thereunder continue as to a person who has ceased to be a director, officer, employee or agent and inure to the benefit of the heirs, executors and administrators of the person. In addition, expenses incurred by a director or officer in defending any civil, criminal, administrative or investigative action, suit or proceeding by reason of the fact that he or she is or was a director or officer of the Registrant (or was serving at the Registrant's request as a director or officer of another

corporation) shall be paid by the Registrant in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director or officer to repay such amount if it shall ultimately be determined that he or she is not entitled to be indemnified by the Registrant as authorized by the relevant section of the Delaware General Corporation Law.

(c) As permitted by Section 102(b)(7) of the Delaware General Corporation Law, Article VI, Section (A)2 of the Registrant's Certificate of Incorporation provides that a director of the Registrant shall not be personally liable for monetary damages or breach of fiduciary duty as a director, except for liability for (i) any breach of the director's duty of loyalty to the Registrant or its stockholders, (ii) acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (iii) unlawful payment of dividends or unlawful stock purchases or redemptions under Section 174 of the Delaware General Corporation Law, or (iv) any transaction from which the director derived any improper personal benefit.

(d) Pursuant to authorization provided under the Certificate of Incorporation, the Registrant has entered into indemnification agreements with each of its present and certain of its former directors. The Registrant has also entered into similar agreements with certain of the Registrant's executive officers who are not directors. Generally, the indemnification agreements attempt to provide the maximum protection permitted by Delaware and California law as it may be amended from time to time. Moreover, the indemnification agreements provide for certain additional indemnification.

(e) There is directors and officers liability insurance now in effect which insures directors and officers of the Company.

ITEM 7. EXEMPTION FROM REGISTRATION CLAIMED

Not Applicable.

ITEM 8. EXHIBITS

<TABLE>
<CAPTION>

Exhibit Number	Exhibit
<S>	<C>
4.1	Instruments defining the rights of stockholders. Reference is made to the Registration Statement on Form 8-A, filed on November 21, 1994, the Registration Statement on Form 8-A, filed September 30, 1996, as amended by Amendment No. 1 on Form 8-A and Amendment No. 2 on Form 8-A filed on November 10, 1998 and December 24, 1998, respectively, together with all exhibits thereto, incorporated herein by reference pursuant to Items 3(d) and (e).
5.1	Opinion and consent of Brobeck, Phleger & Harrison LLP

23.1	Consent of Brobeck, Phleger & Harrison LLP (contained in Exhibit 5.1)
23.2	Consent of Ernst & Young LLP, independent auditors
24.1	Power of Attorney. Reference is made to the signature page of this registration statement
99.1	1992 Stock Option/Stock Issuance Plan (as amended April 29, 1998)
99.2	1992 Employee Stock Purchase Plan (as amended April 29, 1998)

</TABLE>

ITEM 9. 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 1933 Act, (ii) to reflect in the prospectus any facts or events arising after the effective date of this Registration Statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in this Registration Statement and (iii) to include any material information with respect to the plan of distribution not previously disclosed in this Registration Statement or any material change to such information in this Registration Statement; provided, however, that clauses (1)(i) and (1)(ii) shall not apply if the information required to be included in a post-effective amendment by those clauses is contained in periodic reports filed by the Registrant pursuant to Section 13 or Section 15(d) of the 1934 Act that are incorporated by reference into this Registration Statement; (2) that for the purpose of determining any liability under the 1933 Act, each such post-effective amendment shall be deemed

to be new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof; and (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 1933 Act, each filing of the Registrant's annual report pursuant to Section 13(a) or Section 15(d) of the 1934 Act that is incorporated by reference into this Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

C. Insofar as indemnification for liabilities arising under the 1933 Act may be permitted to directors, officers, or controlling persons of the Registrant pursuant to the indemnification provisions summarized in Item 6 above or otherwise, the Registrant has been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the 1933 Act, and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (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) is asserted by such director, officer or controlling person in connection with the securities being registered, 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 such indemnification by it is against public policy as expressed in the 1933 Act and will be governed by the final adjudication of such issue.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, as amended, the Registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-8 and has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of San Diego, State of California, on this 30th day of December, 1998.

LIGAND PHARMACEUTICALS INCORPORATED

By: /s/ David E. Robinson

David E. Robinson
President and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS:

That the undersigned officers and directors of Ligand Pharmaceuticals Incorporated, a Delaware corporation, do hereby constitute and appoint David E. Robinson and Paul V. Maier, and each of them, the lawful attorneys-in-fact and agents with full power and authority to do any and all acts and things and to execute any and all instruments which said attorneys and agents, and either one of them, determine may be necessary or advisable or required to enable said corporation to comply with the Securities Act of 1933, as amended, and any rules or regulations or requirements of the Securities and Exchange Commission in connection with this registration statement. Without limiting the generality of the foregoing power and authority, the powers granted include the power and authority to sign the names of the undersigned officers and directors in the capacities indicated below to this registration statement, to any and all amendments, both pre-effective and post-effective, and supplements to this registration statement, and to any and all instruments or documents filed as part of or in conjunction with this registration statement or amendments or supplements thereof, and each of the undersigned hereby ratifies and confirms that all said attorneys and agents, or either of them, shall do or cause to be done by virtue hereof. This Power of Attorney may be signed in several counterparts.

IN WITNESS WHEREOF, each of the undersigned has executed this Power of Attorney as of the date indicated.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed below by the following persons in the capacities and on the dates indicated.

<TABLE>
<CAPTION>

Signature	Title	Date
<S>	<C>	<C>
/s/ David E. Robinson - ---------- David E. Robinson	President, Chief Executive Officer and Director (Principal Executive Officer)	December 30, 1998
/s/ Paul V. Maier - ---------- Paul V. Maier	Senior Vice President, Chief Financial Officer (Principal Financial and Accounting Officer)	December 30, 1998
/s/ Henry F. Blissenbach - ---------- Henry F. Blissenbach	Director	December 30, 1998
/s/ Alexander D. Cross	Director	December 30, 1998

Alexander D. Cross		
/s/ Victoria R. Fash Victoria R. Fash	Director	December 30, 1998
/s/ John Groom John Groom	Director	December 30, 1998
/s/ Irving S. Johnson, Ph.D. Irving S. Johnson, Ph.D.	Director	December 30, 1998
/s/ Carl C. Peck Carl C. Peck	Director	December 30, 1998

EXHIBIT INDEX

EXHIBIT NUMBER	DOCUMENT
4.1	Instruments defining the rights of stockholders. Reference is made to the Registration Statement on Form 8-A, filed on November 21, 1994, the Registration Statement on Form 8-A, filed September 30, 1996, as amended by Amendment No. 1 on Form 8-A and Amendment No. 2 on Form 8-A filed on November 10, 1998 and December 24, 1998, respectively, together with all exhibits thereto, incorporated herein by reference pursuant to Items 3(d) and (e).
5.1	Opinion and consent of Brobeck, Phleger & Harrison LLP
23.1	Consent of Brobeck, Phleger & Harrison LLP (contained in Exhibit 5.1)
23.2	Consent of Ernst & Young LLP, independent auditors
24.1	Power of Attorney. Reference is made to the signature page of this registration statement
99.1	1992 Stock Option/Stock Issuance Plan (as amended April 29, 1998)
99.2	1992 Employee Stock Purchase Plan (as amended April 29, 1998)

EXHIBIT 5.1

[Brobeck, Phleger & Harrison LLP Letterhead]

December 30, 1998

Ligand Pharmaceuticals Incorporated
10275 Science Center Drive
San Diego, California 92121

Re: Ligand Pharmaceuticals Incorporated Registration Statement on Form S-8 for (i) 785,000 Shares of Common Stock Issuable Under The 1992 Stock Option/Stock Issuance Plan, as amended, (ii) 24,500 Shares of Common Stock Issuable Under The Employee Stock Purchase Plan, as amended, and (iii) 29,079 Shares of Common Stock Held by Certain Selling Stockholders

Ladies and Gentlemen:

We have acted as counsel to Ligand Pharmaceuticals Incorporated (the "Company") in connection with the registration on Form S-8 (the "Registration Statement") under the Securities Act of 1933, as amended, of (i) an additional 785,000 shares of the Company's common stock (the "Common Stock") for issuance under the Company's 1992 Stock Option/Stock Issuance Plan, as amended (the "Stock Plan"), (ii) an additional 24,500 shares of Common Stock for issuance under the Company's Employee Stock Purchase Plan, as amended (the "Employee Plan"), and (iii) 29,079 shares of Common Stock held for resale by certain selling stockholders. All of such shares of Common Stock are collectively referred to herein as the "Shares."

This opinion is being furnished in accordance with the requirements of Item 8 of Form S-8 and Item 601(b)(5)(i) of Regulation S-K.

We have reviewed the Company's charter documents and the corporate proceedings taken by the Company in connection with the establishment and amendment of the Stock Plan and the Employee Plan. Based on such review, we are of the opinion that:

1. If, as and when the additional 809,500 Shares reserved in the aggregate under the Stock Plan and the Employee Plan have been issued and sold (and the consideration therefor received) pursuant to (a) the provisions of option agreements duly authorized under the Stock Plan and in accordance with the Registration Statement, or (b) duly authorized direct stock issuances in accordance with the Stock Plan and the Employee Plan and in accordance with the Registration Statement, those Shares will be legally issued, fully paid and nonassessable.

2. The 29,079 Shares held by the selling stockholders for resale are legally issued, fully paid and nonassessable.

We consent to the filing of this opinion letter as Exhibit 5.1 to the Registration Statement. In giving this consent, we do not thereby admit that we are within the category of persons whose consent is required under Section 7 of the Securities Act of 1933, as amended, or the rules and regulations of the Securities and Exchange Commission promulgated thereunder, or Item 509 of Regulation S-K.

This opinion letter is rendered as of the date first written above and we disclaim any obligation to advise you of facts, circumstances, events or developments which hereafter may be brought to our attention and which may alter, affect or modify the opinion expressed herein. Our opinion is expressly limited to the matters set forth above and we render no opinion, whether by implication or otherwise, as to any other matters relating to the Company, the selling stockholders, the Stock Plan, the Employee Plan or the Shares.

Very truly yours,

/s/ BROBECK, PHLEGER & HARRISON LLP

EXHIBIT 23.2

Consent of Ernst & Young LLP, Independent Auditors

We consent to the incorporation by reference in the Registration Statement (Form S-8) pertaining to the 1992 Stock Option/Stock Issuance Plan and the 1992 Employee Stock Purchase Plan of Ligand Pharmaceuticals Incorporated of our report dated January 30, 1998, with respect to the consolidated financial statements of Ligand Pharmaceuticals Incorporated included in its Annual Report (Form 10-K) for the year ended December 31, 1997, filed with the Securities and Exchange Commission on March 31, 1998.

/s/ ERNST & YOUNG LLP
ERNST & YOUNG LLP

San Diego, California
December 28, 1998

EXHIBIT 99.1

LIGAND PHARMACEUTICAL INCORPORATED

1992 STOCK OPTION/STOCK ISSUANCE PLAN
AS AMENDED THROUGH APRIL 29, 1998

ARTICLE ONE
GENERAL

I. PURPOSE OF THE PLAN

A. This 1992 Stock Option/Stock Issuance Plan ("Plan") is intended to promote the interests of Ligand Pharmaceuticals Incorporated, a Delaware corporation (the "Corporation"), by providing (i) key employees (including officers) of the Corporation (or its parent or subsidiary corporations) who are responsible for the management, growth and financial success of the Corporation (or its parent or subsidiary corporations), (ii) non-employee members of the Board of Directors and (iii) consultants and other independent contractors who provide valuable services to the Corporation (or its parent or subsidiary corporations) with the opportunity to acquire a proprietary interest, or otherwise increase their proprietary interest in the Corporation as an incentive for them to remain in the service of the Corporation (or its parent or subsidiary corporations).

B. The Plan became effective on November 17, 1992, the date on which the shares of the Corporation's common stock were first registered under Section 12(g) of the Securities Exchange Act of 1934, as amended (the "1934 Act"). Such date is hereby designated as the "Effective Date" of this Plan.

C. This Plan shall serve as the successor to the Corporation's Restricted Stock Purchase Plan (the "Stock Plan") and 1988 Stock Option Plan (the "Option Plan") (such Plans are hereinafter referred to as the "Predecessor Plans"), and no further option grants or share issuances shall be made under the Predecessor Plans from and after the Effective Date. Each outstanding option or share issuance under the Predecessor Plans immediately prior to the Effective Date were incorporated into this Plan and are to be treated as outstanding options or stock issuances under this Plan. However, each such option or share issuance shall continue to be governed solely by the terms and conditions of the instrument evidencing such grant or issuance, and, except as otherwise expressly provided herein, no provision of this Plan shall affect or otherwise modify the rights or obligations of the holders of such incorporated options or shares with respect to their acquisition of shares of the Corporation's common stock or otherwise modify the rights or obligations of the holders of such options or shares.

D. For purposes of this Plan, the following provisions shall be applicable in determining the parent and subsidiary corporations of the Corporation:

Any corporation (other than the Corporation) in an unbroken chain of corporations ending with the Corporation shall be considered to be a PARENT of the Corporation, provided each such corporation in the unbroken chain (other than the Corporation) owns, at the time of the determination, stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain.

Each corporation (other than the Corporation) in an unbroken chain of corporations beginning with the Corporation shall be considered to be a SUBSIDIARY of the Corporation, provided each such corporation (other than the last corporation) in the unbroken chain owns, at the time of the determination, stock possessing fifty percent (50%) or more of the total combined voting power of all classes of stock in one of the other corporations in such chain.

II. STRUCTURE OF THE PLAN

A. The Plan shall be divided into four separate components: the Discretionary Option Grant Program specified in Article Two, the Automatic

Option Grant Program specified in Article Three, the Stock Issuance Program specified in Article Four, and the Director Fee Option Grant Program specified in Article Five. Under the Discretionary Option Grant Program, eligible individuals may be granted options to purchase shares of the Corporation's common stock at not less than 85% of the Fair Market Value (as defined below) of such shares on the grant date. Under the Automatic Option Grant Program, eligible non-employee members of the Board of Directors will be granted options to purchase shares of the

Corporation's common stock at 100% of the Fair Market Value of such shares on the grant date. Subject to the limitations contained in this Plan, the Stock Issuance Program shall allow eligible individuals to purchase shares of the Corporation's common stock at discounts from the Fair Market Value of such shares of up to 15%. Such shares may be issued as fully-vested shares or as shares to vest over time. Under the Director Fee Option Grant Program, non-employee Board members may elect to apply all or a portion of the fee otherwise payable in cash to him or her each year to the acquisition of a special option grant.

B. The provisions of Articles One and Six of the Plan shall apply to both the Discretionary Option Grant Program and the Stock Issuance Program and shall accordingly govern the interests of all individuals in the Plan.

C. With respect to persons subject to Section 16 of the Securities Exchange Act of 1934 ("1934 Act"), transactions under the Plan are intended to comply with all applicable conditions of Rule 16b-3 or its successors under the 1934 Act. To the extent any provision of the Plan or action by the Committee (as defined below) fails to so comply, it shall be deemed null and void, to the extent permitted by law and deemed advisable by the Committee.

III. ADMINISTRATION OF THE PLAN

A. Plan Administrator. The Board shall appoint a committee of two (2) or more non-employee Board members (the "Primary Committee") to have sole and exclusive authority to administer the Discretionary Option Grant and Stock Issuance Programs to administer the Plan with respect to officers and directors subject to Section 16 of the 1934 Act ("Section 16 Insiders").

B. Committees. Administration of the Discretionary Option Grant and Stock Issuance Programs with respect to all other persons eligible to participate in those programs may, in the Board's discretion, be vested in the Primary Committee or a committee of two (2) or more Board members appointed by the Board (the "Secondary Committee"), or the Board may retain the power to administer those programs with respect to all such persons.

C. Members of Committees. Members of the Primary Committee or any Secondary Committee shall serve for such period of time as the Board may determine and may be removed by the Board at any time. The Board may also at any time terminate the functions of any Secondary Committee and assume all powers and authority previously delegated to such committee.

D. Service as Committee Members. Service on the Primary Committee or the Secondary Committee shall constitute service as a Board member, and members of each such committee shall accordingly be entitled to full indemnification and reimbursement as Board members for their service on such committee. No member of the Primary Committee or the Secondary Committee shall be liable for any act or omission made in good faith with respect to the Plan or any option grants or stock issuances under the Plan.

E. Authority. Each Plan Administrator shall, within the scope of its administrative functions under the Plan, have full power and authority (subject to the express provisions of the Plan) to establish such rules and regulations as it may deem appropriate for the proper administration of the Discretionary Option Grant Program and Stock Issuance Programs and to make such determinations under, and issue such interpretations of, such programs and any outstanding option grants or stock issuances as it may deem necessary or advisable. Decisions of each Plan Administrator shall be final and binding on all parties who have an interest in the Discretionary Option Grant Program and Stock Issuance Program or any outstanding option or stock issuance thereunder.

F. Restriction on Discretion. The administration of the Automatic Option Grant Program under Article Three and the Director Fee Option Grant Program under Article Five shall be self executing in accordance with the terms and provisions of those programs, and no Plan Administrator shall exercise any discretionary functions with respect to such programs.

IV. OPTION GRANTS AND STOCK ISSUANCES

A. The persons eligible to receive stock issuances under the Stock Issuance Program ("Participant") and/or option grants pursuant to the Discretionary Option Grant Program ("Optionee") are as follows:

(i) officers and other key employees of the Corporation (or its parent or subsidiary corporations) who render services which contribute to the management, growth and financial success of the Corporation (or its parent or subsidiary corporations);

(ii) non-employee members of the Board of Directors; and

(iii) those consultants or other independent contractors who provide valuable services to the Corporation (or its parent or subsidiary corporations).

B. Only non-employee members of the Board shall be eligible to participate in the Automatic Option Grant Program and the Director Fee Option Grant Program.

C. Each Plan Administrator shall have full authority to determine, (i) with respect to the option grants made under the Discretionary Option Grant Program, which eligible individuals are to receive option grants, the time or times when such grants are to be made, the number of shares to be covered by each such grant, whether the granted option is to be an incentive stock option ("Incentive Option") which satisfies the requirements of Section 422 of the Internal Revenue Code or a non-statutory option not intended to meet such requirements, the time or times at which each granted option is to become exercisable and the maximum term for which the option may remain outstanding and (ii) with respect to stock issuances under the Stock Issuance Program, the number of shares to be issued to each Participant, the vesting schedule (if any) to be applicable to the issued shares, and the consideration to be paid by the individual for such shares.

D. The Plan Administrator shall have the absolute discretion either to grant options in accordance with Article Two of the Plan or to effect stock issuances in accordance with Article Four of the Plan. The Plan Administrator will have no discretion with respect to the grant of options under the Automatic Option Grant Program and the Director Fee Option Grant Program.

V. STOCK SUBJECT TO THE PLAN

A. Shares of the Corporation's Common Stock (hereinafter referred to as the "Common Stock") shall be available for issuance under the Plan and shall be drawn from either the Corporation's authorized but unissued shares of Common Stock or from reacquired shares of Common Stock, including shares repurchased by the Corporation on the open market. The maximum number of shares issuable under the Plan is 8,088,457 shares of Common Stock. Such share reserve includes an increase of 785,000 shares authorized by the Board on April 29, 1998, subject to stockholder approval at the 1998 Annual Meeting.

B. No one person participating in the Plan may receive options, separately exercisable stock appreciation rights and direct stock issuances for more than 1,000,000 shares of Common Stock in the aggregate over the term of the Plan.

C. Should one or more outstanding options under this Plan (including outstanding options under the Predecessor Plans incorporated into this Plan)

expire or terminate for any reason prior to exercise in full (including any option cancelled in accordance with the cancellation-regrant provisions of Section IV of Article Two of the Plan), then the shares subject to the portion of each option not so exercised shall be available for subsequent option grant or share issuance under this Plan. Unvested shares issued under the Plan and subsequently cancelled or repurchased by the Corporation, at the original exercise or issue price paid per share, pursuant to the Corporation's repurchase rights under the Plan shall be added back to the number of shares of Common Stock reserved for issuance under the Plan and shall accordingly be available for reissuance through one or more subsequent option grants or direct stock issuances under the Plan. However, shares subject to any option or portion thereof surrendered or cancelled in accordance with Section V of Article Two shall reduce on a share-for-share basis the number of shares of the same class of Common Stock available for subsequent option grant or stock issuance under the Plan. In addition, should the exercise price of an outstanding option under the Plan be paid with shares of Common Stock or should shares of Common Stock otherwise issuable under the Plan be withheld by the Corporation in satisfaction of the withholding taxes incurred in connection with the exercise of an outstanding option under the Plan, then the number of shares of Common Stock of the same class available for issuance under the Plan shall be reduced by the gross number of shares for which the option is exercised, and not by the net number of shares of Common Stock actually issued to the option holder.

D. In the event any change is made to the Common Stock issuable under the Plan by reason of any stock split, stock dividend, recapitalization, combination of shares, exchange of shares, conversion or other change affecting the outstanding Common Stock, or any class of Common Stock as a class, without the Corporation's receipt of consideration,

then appropriate adjustments shall be made to (i) the number and/or class of shares issuable under the Plan, (ii) the number and/or class of securities for which any one person may be granted stock options, separately exercisable stock appreciation rights and direct stock issuances over the term of the Plan, and (iii) the number and/or class of shares and price per share in effect under each outstanding option under this Plan (including outstanding options incorporated into this Plan from the Predecessor Plans). Such adjustments to the outstanding options are to be effected in a manner which shall preclude the enlargement or dilution of rights and benefits under such options. The adjustments determined by the Plan Administrator shall be final, binding and conclusive.

E. Common Stock issuable under the Discretionary Option Grant Program or the Stock Issuance Program may be subject to such restrictions on transfer, repurchase rights or other restrictions as determined by the Plan Administrator.

VI. DETERMINATION OF FAIR MARKET VALUE

The "Fair Market Value" of a share of Common Stock shall be determined in accordance with the following provisions:

-- If shares of Common Stock to be valued are not at the time listed or admitted to trading on any national stock exchange but is traded on the Nasdaq National Market, the Fair Market Value shall be the closing selling price per share of a share of that class on the date in question, as such price is reported by the National Association of Securities Dealers on the Nasdaq National Market. If there is no reported closing selling price for the series on the date in question, then the closing selling price on the last preceding date for which such quotation exists shall be determinative of Fair Market Value.

-- If shares of the class of common stock to be valued are at the time listed or admitted to trading on any national stock exchange, then the Fair Market Value of a share of that class shall be the closing selling price per share on the date in question on the stock exchange determined by the Plan Administrator to be the primary market for the Common Stock, as such price is officially quoted in the composite tape of transactions on such exchange. If there is no reported sale of a share of the class on such exchange on the date in question, then the Fair Market Value shall be the closing selling price on the exchange on

the last preceding date for which such quotation exists.

ARTICLE TWO
DISCRETIONARY OPTION GRANT PROGRAM

I. TERMS AND CONDITIONS OF OPTIONS

Options granted pursuant to this Article Two shall be authorized by action of the Plan Administrator and, at the Plan Administrator's discretion, may be either Incentive Options or Non-Statutory Options. Individuals who are not Employees of the Corporation or its parent or subsidiary corporations may only be granted Non-Statutory Options. Each granted option shall be evidenced by one or more instruments in the form approved by the Plan Administrator; provided, however, that each such instrument shall comply with the terms and conditions specified below. Each instrument evidencing an Incentive Option shall, in addition, be subject to the applicable provisions of Section II of this Article Two.

A. Option Price.

(1) The option price per share shall be fixed by the Plan Administrator. In no event, however, shall the price for any share be less than eighty-five percent (85%) of the Fair Market Value of that share on the date of the option grant.

(2) The option price shall become immediately due upon exercise of the option and, subject to the provisions of Article Six, Section II and the instrument evidencing the grant, shall be payable in one of the following alternative forms specified below:

-- full payment in cash or check drawn to the Corporation's order;

-- full payment in shares of Common Stock held for at least six (6) months and valued at Fair Market Value on the Exercise Date;

-- full payment in a combination of shares of Common Stock held for at least six (6) months and valued at Fair Market Value on the Exercise Date and cash or check; or

-- full payment through a broker-dealer sale and remittance procedure pursuant to which the Optionee (I) shall provide irrevocable instructions to a designated brokerage firm to effect the immediate sale of the purchased shares and remit to the Corporation, out of the sale proceeds available on the settlement date, sufficient funds to cover the aggregate option price payable for the purchased shares plus all applicable Federal and State income and employment taxes required to be withheld by the Corporation in connection with such purchase and (II) shall provide written directives to the Corporation to deliver the certificates for the purchased shares directly to such brokerage firm in order to complete the sale transaction.

For purposes of this subparagraph (2), the Exercise Date shall be the date on which written notice of the option exercise is delivered to the Corporation. Except to the extent the sale and remittance procedure is utilized in connection with the exercise of the option, payment of the option price for the purchased shares must accompany such notice.

B. Term and Exercise of Options. Each option granted under this Article Two shall be exercisable at such time or times and during such period as is determined by the Plan Administrator and set forth in the stock option agreement evidencing the grant. No such option, however, shall have a maximum term in excess of ten (10) years from the grant date.

C. Termination of Service.

(1) Except to the extent otherwise provided pursuant to Section VI

of this Article Two, the following provisions shall govern the exercise period applicable to any outstanding options under this Article Two which are held by the Optionee at the time of his or her cessation of Service or death.

-- Should an Optionee's Service terminate for any reason (including death or permanent disability as defined in Section 22(e)(3) of the Internal Revenue Code) while the holder of one or more outstanding options under the Plan, then none of those options shall (except to the extent otherwise provided pursuant to Section VI of this Article Two) remain exercisable beyond the limited post-Service period designated by the Plan Administrator at the time of the option grant and set forth in the option agreement.

-- Any option granted to an Optionee under this Article Two and exercisable in whole or in part on the date of the Optionee's death may be subsequently exercised, by the personal representative of the Optionee's estate or by the person or persons to whom the option is transferred pursuant to the Optionee's will or in accordance with the laws of descent and distribution, provided and only if such exercise occurs prior to the earlier of (i) the third anniversary of the date of the Optionee's death or (ii) the specified expiration date of the option term. Upon the occurrence of the earlier event, the option shall terminate and cease to be exercisable.

-- Under no circumstances, however, shall any such option be exercisable after the specified expiration date of the option term.

-- During the limited post-Service period of exercisability, the option may not be exercised in the aggregate for more than the number of shares for which the option is exercisable on the date the Optionee's Service terminates. Upon the expiration of such limited exercise period or (if earlier) upon the expiration of the option term, the option shall terminate and cease to be exercisable.

(2) The Plan Administrator shall have complete discretion, exercisable either at the time the option is granted or at any time while the option remains outstanding:

-- to permit one or more options held by the Optionee under this Article Two to be exercised, during the limited period of post-Service exercisability provided under subparagraph (1) above, not only with respect to the number of shares for which each such option is exercisable at the time of the Optionee's cessation of Service but also with respect to one or more subsequent installments of purchasable shares for which the option would otherwise have become exercisable had such cessation of Service not occurred, and

-- to extend the period of time for which any option granted under this Article Two is to remain exercisable following the Optionee's cessation of Service or death from the limited period in effect under subparagraph (1) above to such greater period of time as the Plan Administrator shall deem appropriate; provided, however, that in no event shall such option be exercisable after the specified expiration date of the option term.

(3) For purposes of the foregoing provisions of this Section I.C (and for all other purposes under the Plan):

-- The Optionee shall (except to the extent otherwise specifically provided in the applicable option or issuance agreement) be deemed to remain in the SERVICE of the Corporation for so long as such individual renders services on a periodic basis to the Corporation (or any parent or subsidiary corporation) in the capacity of an Employee, a non-employee member of the Board or an independent consultant or advisor.

-- The Optionee shall be considered to be an EMPLOYEE for so long as he or she remains in the employ of the Corporation or one or

more parent or subsidiary corporations, subject to the control and direction of the employer entity not only as to the work to be performed but also as to the manner and method of performance.

D. Stockholder Rights. An Optionee shall have no stockholder rights with respect to any shares covered by the option until such individual shall have exercised the option, paid the option price for the purchased shares and been issued a stock certificate for such shares.

E. Repurchase Rights. The Plan Administrator shall have the discretion to grant options which are exercisable for unvested shares of Common Stock. Should the Optionee cease Service while holding such unvested shares, the Corporation shall have the right to repurchase, at the exercise price paid per share, any or all of those unvested shares. The terms upon which such repurchase right shall be exercisable (including the period and procedure for exercise and the appropriate vesting schedule for the purchased shares) shall be established by the Plan Administrator and set forth in the document evidencing such repurchase right.

F. Limited Transferability of Options. During the lifetime of the Optionee, Incentive Options shall be exercisable only by the Optionee and shall not be assignable or transferable other than by will or by the laws of descent and distribution following the Optionee's death. Non-Statutory Options may, to the extent permitted by the Plan Administrator, be assigned in whole or in part during the Optionee's lifetime to one or more members of the Optionee's immediate family or to a trust established exclusively for one or more such family members. The terms applicable to the assigned portion shall be the same as those in effect for the option immediately prior to such assignment and shall be set forth in such documents issued to the assignee as the Plan Administrator may deem appropriate.

II. INCENTIVE OPTIONS

The terms and conditions specified below shall be applicable to all Incentive Options granted under this Article Two. Incentive Options may only be granted to individuals who are Employees of the Corporation. Options which are specifically designated as "non-statutory" options when issued under the Plan shall not be subject to such terms and conditions.

A. Option Price. The option price per share of any share of Common Stock subject to an Incentive Option shall in no event be less than one hundred percent (100%) of the Fair Market Value of such share of Common Stock on the grant date.

B. Dollar Limitation. The aggregate Fair Market Value (determined as of the respective date or dates of grant) of the Common Stock for which one or more options granted to any Employee under this Plan (or any other option plan of the Corporation or its parent or subsidiary corporations) may for the first time become exercisable as incentive stock options under the Federal tax laws during any one calendar year shall not exceed the sum of One Hundred Thousand Dollars ($100,000). To the extent the Employee holds two or more such options which become exercisable for the first time in the same calendar year, the foregoing limitation on the exercisability of such options as Incentive Options under the Federal tax laws shall be applied on the basis of the order in which such options are granted.

C. 10% Stockholder. If any Employee to whom an Incentive Option is granted is a 10% Stockholder, then the exercise price per share shall not be less than one hundred ten percent (110%) of the Fair Market Value per share of the Common Stock on the option grant date, and the option term shall not exceed five (5) years measured from the option grant date.

Except as modified by the preceding provisions of this Section II, the provisions of Articles One, Two and Six of the Plan shall apply to all Incentive Options granted hereunder.

III. CORPORATE TRANSACTIONS

A. For purposes of this Section III, a "Corporate Transaction" shall mean any one of the following stockholder-approved transactions:

(i) a merger or consolidation in which the Corporation is not the surviving entity, except for a transaction the principal purpose of which is to change the State of the Corporation's incorporation,

(ii) the sale, transfer or other disposition of all or substantially all of the assets of the Corporation in liquidation or dissolution of the Corporation, or

(iii) any reverse merger in which the Corporation is the surviving entity but in which securities possessing more than fifty percent (50%) of the total combined voting power of the Corporation's outstanding securities are transferred to holders different from those who held such securities immediately prior to such merger.

B. Each outstanding option which is assumed in connection with a Corporate Transaction or is otherwise to continue in effect shall be appropriately adjusted, immediately after such Corporate Transaction, to apply and pertain to the number and class of securities which would be issuable, in consummation of such Corporate Transaction, to an actual holder of the same number of shares of Common Stock as are subject to such option immediately prior to such Corporate Transaction, and appropriate adjustments shall also be made to the option price payable per share, provided the aggregate option price payable for such securities shall remain the same. Appropriate adjustments shall also be made to the class and number of securities available for issuance under the Plan on both an aggregate and per participant basis following the consummation of such Corporate Transaction.

C. The grant of options under this Article Two shall in no way affect the right of the Corporation to adjust, reclassify, reorganize or otherwise change its capital or business structure or to merge, consolidate, dissolve, liquidate or sell or transfer all or any part of its business or assets.

IV. CANCELLATION AND REGRANT OF OPTIONS

The Plan Administrator shall have the authority to effect, at any time and from time to time, with the consent of the affected Optionees, the cancellation of any or all outstanding options under this Article Two (including outstanding options under the Predecessor Plans incorporated into this Plan) and to grant in substitution new options under this Article Two covering the same or different numbers of shares of Common Stock but having an option price for each share which is not less than (i) eighty-five percent (85%) of the Fair Market Value of such share on the new grant date or (ii) one hundred percent (100%) of such Fair Market Value in the case of an Incentive Option.4

V. STOCK APPRECIATION RIGHTS

A. Provided and only if the Plan Administrator determines in its discretion to implement the stock appreciation right provisions of this Section V, one or more Optionees under the Discretionary Option Grant Program may be granted the right, exercisable upon such terms and conditions as the Plan Administrator may establish, to surrender all or part of an unexercised option under this Article Two in exchange for a distribution from the Corporation in an amount equal to the excess of (i) the Fair Market Value (on the option surrender date) of the number of shares in which the Optionee is at the time vested under the surrendered option (or surrendered portion thereof) over (ii) the aggregate option price payable for such vested shares.

B. No surrender of an option shall be effective hereunder unless it is approved by the Plan Administrator. If the surrender is so approved, then the distribution to which the Optionee shall accordingly become entitled under this Section V may be made in shares of any class of Common Stock valued at Fair Market Value on the option surrender date, in cash, or partly in shares and partly in cash, as the Plan Administrator shall in its sole discretion deem appropriate.

C. If the surrender of an option is rejected by the Plan Administrator, then the Optionee shall retain whatever rights the Optionee had under the surrendered option (or surrendered portion thereof) on the option surrender date and may exercise such rights at any time prior to the later of (i) five (5) business days after the receipt of the rejection notice or (ii) the last day on which the option is otherwise exercisable in accordance with the terms of the instrument evidencing such option, but in no event may such rights be exercised more than ten (10) years after the date of the option grant.

D. One or more officers of the Corporation subject to the short-swing profit restrictions of the Federal securities laws may, in the Plan Administrator's sole discretion, be granted limited stock appreciation rights in tandem with their outstanding options under this Article Two. Upon the occurrence of a Hostile Take-Over effected at any time when the Corporation's outstanding Common Stock is registered under Section 12(g) of the 1934 Act, each outstanding option with such a limited stock appreciation right shall automatically be cancelled, to the extent such option is at the time exercisable for fully-vested shares of Common Stock. The Optionee shall in return be entitled to a cash distribution from the Corporation in an amount equal to the excess of (i) the Take-Over Price of the vested shares of Common Stock at the time subject to the cancelled option (or cancelled portion of such option) over (ii) the aggregate exercise price payable for such shares. The cash distribution payable upon such cancellation shall be made within five (5) days following the consummation of the Hostile Take-Over. The Plan Administrator shall pre-approve, at the time the limited right is granted, the subsequent exercise of that right in accordance with the terms of the grant and the provisions of this Section V.D. No additional approval of the Plan Administrator or the Board shall be required at the time of the actual option cancellation and cash distribution. The balance of the option (if any) shall continue to remain outstanding and exercisable in accordance with the terms of the instrument evidencing such grant.

E. For purposes of Section V.D, the following definitions shall be in effect:

A HOSTILE TAKE-OVER shall be deemed to occur in the event any person or related group of persons (other than the Corporation or a person that directly or indirectly controls, is controlled by, or is under common control with, the Corporation) directly or indirectly acquires beneficial ownership (within the meaning of Rule 13d-3 of the 1934 Act) of securities possessing more than fifty percent (50%) of the total combined voting power of the Corporation's outstanding securities pursuant to a tender or exchange offer made directly to the Corporation's stockholders which the Board does not recommend such stockholders to accept.

The TAKE-OVER PRICE per share shall be deemed to be equal to the greater of (a) the Fair Market Value per share on the date of cancellation, as determined pursuant to the valuation provisions of Section VI of Article One, or (b) the highest reported price per share paid in effecting such Hostile Take-Over. However, if the cancelled option is an Incentive Option, the Take-Over Price shall not exceed the clause (a) price per share.

F. The shares of Common Stock subject to any option surrendered or cancelled for an appreciation distribution pursuant to this Section V shall NOT be available for subsequent option grant under the Plan.

ARTICLE THREE
AUTOMATIC OPTION GRANT PROGRAM

I. TERMS AND CONDITIONS OF AUTOMATIC OPTION GRANTS

A. Grant Dates. Option grants will be made under this Article Three on the dates specified below:

(1) Each individual who first becomes a non-employee Board member on or after the date of the 1998 Annual Meeting, whether through election by the Corporation's stockholders or appointment by the Board, shall automatically be granted, at the time of such initial election or appointment, a Non-Statutory Option to purchase 20,000 shares of Common Stock upon the terms and conditions of this Article Three, provided SUCH INDIVIDUAL HAS NOT OTHERWISE BEEN IN THE

PRIOR EMPLOY OF THE CORPORATION.

(2) On the date of each Annual Stockholders Meeting, beginning with the 1998 Annual Meeting, each individual re-elected as a non-employee Board member at such Annual Meeting shall automatically be granted a Non-Statutory Option to purchase 10,000 shares of Common Stock upon the terms and conditions of this Article Three. There shall be no limit on the number of 10,000-share option grants any one non-employee Board member may receive over the period of Board service, and non-employee Board members previously in the Corporation's employ shall be entitled to one or more such annual option grants over his or her period of Board service.

B. Exercise Price. The exercise price per share of each automatic option grant made under this Article Three shall be equal to one hundred percent (100%) of the Fair Market Value per share of the Common Stock on the date of grant under this Automatic Option Grant Program.

C. Payment.

The exercise price shall be payable in one of the alternative forms specified below:

(i) full payment in cash or check drawn to the Corporation's order;

(ii) full payment in shares of Common Stock held for at least six (6) months and valued at Fair Market Value on the Exercise Date (as such term is defined below);

(iii) full payment in a combination of shares of Common Stock held for at least six (6) months and valued at Fair Market Value on the Exercise Date and cash or check; or

(iv) full payment through a broker-dealer sale and remittance procedure pursuant to which the non-employee Board member (A) shall provide irrevocable instructions to a designated brokerage firm to effect the immediate sale of the purchased shares and remit to the Corporation, out of the sale proceeds available on the settlement date, sufficient funds to cover the aggregate option price payable for the purchased shares plus all applicable Federal and state income taxes required to be withheld by the Corporation in connection with such purchase and (B) shall provide written directives to the Corporation to deliver the certificates for the purchased shares directly to such brokerage firm in order to complete the sale transaction.

For purposes of this paragraph C, the Exercise Date shall be the date on which written notice of the option exercise is delivered to the Corporation. Except to the extent the sale and remittance procedure is utilized in connection with the exercise of the option, payment of the option price for the purchased shares must accompany such notice.

D. Option Term. Each automatic grant under this Article Three shall have a term of ten (10) years measured from the automatic grant date.

E. Exercisability. Each automatic grant shall become exercisable in full one (1) year after the automatic grant date. The option shall not become exercisable for any additional option shares after the optionee has ceased for any reason to be a member of the Board.

F. Effect of Termination of Board Membership.

(1) Should the optionee cease to serve as a Board member for any reason (other than death) while holding one or more automatic option grants under this Article Three, then such optionee shall have a three (3) month period following the date of such cessation of Board service in which to exercise each such option for any or all of the shares of Common Stock for which the option was exercisable at the time of such cessation of Board service. Each such option shall immediately terminate and cease to be outstanding, at the time of such cessation of Board service, with respect to any shares for which the option is

not otherwise at that time exercisable.

(2) Should the optionee die while serving as a Board member or within three (3) months after cessation of Board service, then each outstanding automatic option grant held by the optionee at the time of death may subsequently be exercised, for any or all of the shares of Common Stock for which the option was exercisable at the time of the optionee's cessation of Board service (less any option shares subsequently purchased by the optionee prior to death), by the personal representative of the optionee's estate or by the person or persons to whom the option is transferred pursuant to the optionee's will or in accordance with the laws of descent and distribution. Any such exercise must occur within thirty-six

(36) months after the date of the optionee's death. However, each such automatic option grant shall immediately terminate and cease to be outstanding, at the time of the optionee's cessation of Board service, with respect to any option shares for which it is not otherwise at such time exercisable.

(3) In no event shall any automatic grant under this Article Three remain exercisable after the specified expiration date of the ten (10)-year option term. Upon the expiration of the applicable exercise period in accordance with subparagraphs (1) and (2) above or (if earlier) upon the expiration of the ten (10)-year option term, the automatic grant shall terminate and cease to be outstanding for any unexercised shares for which the option was exercisable at the time of the optionee's cessation of Board service.

G. Stockholder Rights. The holder of an automatic option grant under this Article Three shall have none of the rights of a stockholder with respect to any shares subject to such option until such individual shall have exercised the option, paid the exercise price for the purchased shares and been issued a stock certificate for such shares.

II. CORPORATE TRANSACTION

A. For purposes of this Section II, a "Corporate Transaction" shall be one or more of the following stockholder-approved transactions:

(i) a merger or consolidation in which the Corporation is not the surviving entity, except for a transaction the principal purpose of which is to change the State of the Corporation's incorporation,

(ii) the sale, transfer or disposition of all or substantially all of the assets of the Corporation in liquidation or dissolution of the Corporation, or

(iii) any reverse merger in which the Corporation is the surviving entity but in which securities possessing more than fifty percent (50%) of the total combined voting power of the Corporation's outstanding securities are transferred to holders different from those who held such securities immediately prior to such merger

B. In the event of any Corporate Transaction, the shares of Common Stock at the time subject to each outstanding option but not otherwise vested shall automatically vest in full so that each such option shall, immediately prior to the effective date of the Corporate Transaction, become fully exercisable for all of the shares of Common Stock at the time subject to such option and may be exercised for all or any portion of those shares as fully-vested shares of Common Stock. Immediately following the consummation of the Corporate Transaction, each automatic option grant shall terminate and cease to be outstanding, except to the extent assumed by the successor corporation (or parent thereof).

C. Each outstanding option which is assumed in connection with a Corporate Transaction or is otherwise to continue in effect shall be appropriately adjusted, immediately after such Corporate Transaction, to apply and pertain to the number and class of securities which would be issuable, in consummation of such Corporate Transaction, to an actual holder of the same number of shares of Common Stock as are subject to such option immediately prior

to such Corporate Transaction, and appropriate adjustments shall also be made to the option price payable per share, provided the aggregate option price payable for such securities shall remain the same.

D. The grant of options under this Article Three shall in no way affect the right of the Corporation to adjust, reclassify, reorganize or otherwise change its capital or business structure or to merge, consolidate, dissolve, liquidate or sell or transfer all or any part of its business or assets.

III. REMAINING TERMS

The remaining terms of each option granted under the Automatic Option Grant Program shall be the same as the terms in effect for options made under the Discretionary Option Grant Program.

ARTICLE FOUR
STOCK ISSUANCE PROGRAM

I. TERMS AND CONDITIONS OF STOCK ISSUANCE

Shares of Common Stock may be issued under the Stock Issuance Program through direct and immediate purchases without any intervening stock option grants. The issued shares shall be evidenced by a Stock Issuance Agreement ("Issuance Agreement") that complies with the terms and conditions of this Article Four.

A. CONSIDERATION

(1) Shares of Common Stock drawn from the Corporation's authorized but unissued shares of Common Stock ("Newly Issued Shares") shall be issued under the Plan for one or more of the following items of consideration which the Plan Administrator may deem appropriate in each individual instance:

(i) cash or cash equivalents (such as a personal check or bank draft) paid the Corporation;

(ii) a promissory note payable to the Corporation's order in one or more installments, which may be subject to cancellation in whole or in part upon terms and conditions established by the Plan Administrator; or

(iii) past services rendered to the Corporation or any parent or subsidiary corporation.

(2) Newly Issued Shares may, in the absolute discretion of the Plan Administrator, be issued for consideration with a value less than one-hundred percent (100%) of the Fair Market Value of such shares, but in no event less than eighty-five percent (85%) of such Fair Market Value.

(3) Shares of Common Stock reacquired by the Corporation and held as treasury shares ("Treasury Shares") may be issued under this Article Four for such consideration (in whatever form) as the Plan Administrator may deem appropriate. Accordingly, such Treasury Shares may, in lieu of any cash consideration, be issued subject to such vesting requirements tied to the Participant's period of future Service or the Corporation's attainment of specified performance objectives as the Plan Administrator may establish at the time of issuance.

B. VESTING PROVISIONS

(1) Shares of Common Stock issued under this Article Four may, in the absolute discretion of the Plan Administrator, be fully and immediately vested upon issuance or may vest in one or more installments over the Participant's period of Service (as such term is defined in Section I.C.(3) of Article Two). The elements of the vesting schedule applicable to any unvested shares of Common Stock issued under the Plan, namely:

(i) the Service period to be completed by the Participant or the performance objectives to be achieved by the Corporation,

(ii) the number of installments in which the shares are to vest,

(iii) the interval or intervals (if any) which are to lapse between installments, and

(iv) the effect which death, disability or other event designated by the Plan Administrator is to have upon the vesting schedule,

shall be determined by the Plan Administrator and incorporated into the Issuance Agreement executed by the Corporation and the Participant at the time such unvested shares are issued.

(2) The Participant shall have full stockholder rights with respect to any shares of Common Stock issued to him or her under this Article Four, whether or not his or her interest in those shares is vested. Accordingly, the Participant shall have the right to vote such shares and to receive any regular cash dividends paid on such shares. Any new,

additional or different shares of stock or other property (including money paid other than as a regular cash dividend) which the Participant may have the right to receive with respect to his or her unvested shares by reason of any stock dividend, stock split, reclassification of Common Stock or other similar change in the Corporation's capital structure shall be issued, subject to (i) the same vesting requirements applicable to his or her unvested shares and (ii) such escrow arrangements as the Plan Administrator shall deem appropriate.

(3) Should the Participant cease to remain in Service while holding one or more unvested shares of Common Stock under this Article Four, then those shares shall be immediately surrendered to the Corporation for cancellation, and the Participant shall have no further stockholder rights with respect to those shares. To the extent the surrendered shares were previously issued to the Participant for consideration paid in cash or cash equivalent (including the Participant's purchase-money promissory note), the Corporation shall repay to the Participant the cash consideration paid for the surrendered shares and shall cancel the principal balance of any outstanding purchase-money note of the Participant to the extent attributable to such surrendered shares. The surrendered shares may, at the Plan Administrator's discretion, be retained by the Corporation as Treasury Shares or may be retired to authorized but unissued share status.

(4) The Plan Administrator may in its discretion elect to waive the surrender and cancellation of one or more unvested shares of Common Stock (or other assets attributable thereto) which would otherwise occur upon the non-completion of the vesting schedule applicable to such shares. Such waiver shall result in the immediate vesting of the Participant's interest in the shares of Common Stock as to which the waiver applies. Such waiver may be effected at any time, whether before or after the Participant's cessation of Service or the attainment or non-attainment of the applicable performance objectives.

II. TRANSFER RESTRICTIONS/SHARE ESCROW

A. Unvested shares under this Article Four may, in the Plan Administrator's discretion, be held in escrow by the Corporation until the Participant's interest in such shares vests or may be issued directly to the Participant with restrictive legends on the certificates evidencing such unvested shares. To the extent an escrow arrangement is utilized, the unvested shares and any securities or other assets issued with respect to such shares (other than regular cash dividends) shall be delivered in escrow to the Corporation to be held until the Participant's interest in such shares (or other securities or assets) vests. Alternatively, if the unvested shares are issued directly to the Participant, the restrictive legend on the certificates for such shares shall read substantially as follows:

"THE SHARES REPRESENTED BY THIS CERTIFICATE ARE UNVESTED AND ARE ACCORDINGLY SUBJECT TO (I) CERTAIN TRANSFER RESTRICTIONS AND TO (II) CANCELLATION OR REPURCHASE IN THE EVENT THE REGISTERED HOLDER (OR HIS/HER PREDECESSOR IN INTEREST) CEASES TO REMAIN IN THE CORPORATION'S

SERVICE. SUCH TRANSFER RESTRICTIONS AND THE TERMS AND CONDITIONS OF SUCH CANCELLATION OR REPURCHASE ARE SET FORTH IN A STOCK ISSUANCE AGREEMENT BETWEEN THE CORPORATION AND THE REGISTERED HOLDER (OR HIS/HER PREDECESSOR IN INTEREST) DATED _____, 19 , A COPY OF WHICH IS ON FILE AT THE PRINCIPAL OFFICE OF THE CORPORATION."

B. The Participant shall have no right to transfer any unvested shares of Common Stock issued to him or her under this Article Four. For purposes of this restriction, the term "transfer" shall include (without limitation) any sale, pledge, assignment, encumbrance, gift, or other disposition of such shares, whether voluntary or involuntary. Upon any such attempted transfer, the unvested shares shall immediately be cancelled, and neither the Participant nor the proposed transferee shall have any rights with respect to those shares. However, the Participant shall have the right to make a gift of unvested shares acquired under the Plan to his or her spouse or issue, including adopted children, or to a trust established for such spouse or issue, provided the donee of such shares delivers to the Corporation a written agreement to be bound by all the provisions of the Plan and the Issuance Agreement applicable to the gifted shares.

ARTICLE FIVE
DIRECTOR FEE OPTION GRANT PROGRAM

I. OPTION GRANTS

Each non-employee Board member may, commencing with the 1999 calendar year, elect to apply all or any portion of the fee otherwise payable to him or her in cash each year for his or her Board service to the acquisition of a special option grant under this Director Fee Option Grant Program. Such election must be filed with the Corporation's Chief Financial Officer prior to last day of December in the calendar year immediately preceding the calendar year for which the fee subject of that election is otherwise payable. Each non-employee Board member who files such a timely election shall automatically be granted an option under this Director Fee Option Grant Program on the first trading day in January in the calendar year for which the fee subject of that election would otherwise be payable. Until the Corporation establishes an annual retainer fee for the non-employee Board members, the dollar amount of the fee subject to the Board member's election each year shall be equal to the number of regularly-scheduled Board meetings for that year multiplied by the per Board meeting fee in effect for such year. Stockholder approval of this 1998 Restatement at the 1998 Annual Stockholders Meeting will constitute pre-approval of each option subsequently granted pursuant to the express terms of this Director Fee Option Grant Program and the subsequent exercise of that option in accordance with its terms.

II. OPTION TERMS

Each option shall be a Non-Statutory Option governed by the terms and conditions specified below.

A. EXERCISE PRICE.

(1) The exercise price per share shall be thirty-three and one-third percent (33-1/3%) of the Fair Market Value per share of Common Stock on the option grant date.

(2) The exercise price shall become immediately due upon exercise of the option and shall be payable in one or more of the alternative forms authorized under the Discretionary Option Grant Program. Except to the extent the sale and remittance procedure specified thereunder is utilized, payment of the exercise price for the purchased shares must be made on the Exercise Date.

B. NUMBER OF OPTION SHARES. The number of shares of Common Stock subject to the option shall be determined pursuant to the following formula (rounded down to the nearest whole number):

X = A / (B x 66-2/3%), where

X is the number of option shares,

A is the portion of the annual retainer fee subject to the non-employee Board member's election, and

B is the Fair Market Value per share of Common Stock on the option grant date.

C. EXERCISE AND TERM OF OPTIONS. The option shall become exercisable in a series of twelve (12) successive equal monthly installments upon the Optionee's completion of each calendar month of Board service in the calendar year for which the annual retainer fee which is the subject of his or her election under this Article Five would otherwise be payable. Each option shall have a maximum term of ten (10) years measured from the option grant date.

D. EFFECT OF TERMINATION OF SERVICE. Should the optionee cease Board service for any reason (other than death or permanent disability as defined in Section 22(e)(3) of the Internal Revenue Code) while holding one or more options under this Article Five, then each such option shall remain exercisable, for any or all of the shares for which the option is exercisable at the time of such cessation of Board service, until the earlier of (i) the expiration of the ten (10)-year option term or (ii) the expiration of the three (3)-year period measured from the date of such cessation of Board service. However, each option held by the optionee under this Article Five at the time of his or her cessation of Board service shall immediately terminate and cease to remain outstanding with respect to any and all shares of Common Stock for which the option is not otherwise at that time exercisable.

E. DEATH OR PERMANENT DISABILITY. Should the Optionee's service as a Board member cease by reason of death or permanent disability as defined in Section 22(e)(3) of the Internal Revenue Code, then each option held by such optionee under this Article Five shall immediately become exercisable for all the shares of Common Stock at the time subject to that option, and the option may, during the three (3)-year period following such cessation of Board service, be exercised for any or all of those shares as fully-vested shares.

Should the optionee die while holding one or more options under this Article Five, then each such option may be exercised, for any or all of the shares for which the option is exercisable at the time of the optionee's cessation of Board service (less any shares subsequently purchased by optionee prior to death), by the personal representative of the optionee's estate or by the person or persons to whom the option is transferred pursuant to the optionee's will or in accordance with the laws of descent and distribution. Such right of exercise shall lapse, and the option shall terminate, upon the earlier of (i) the expiration of the ten (10)-year option term or (ii) the three (3)-year period measured from the date of the optionee's cessation of Board service.

III. CORPORATE TRANSACTION

A. For purposes of this Section III, a "Corporate Transaction" shall be one or more of the following stockholder-approved transactions:

(i) a merger or consolidation in which the Corporation is not the surviving entity, except for a transaction the principal purpose of which is to change the State of the Corporation's incorporation,

(ii) the sale, transfer or disposition of all or substantially all of the assets of the Corporation in liquidation or dissolution of the Corporation, or

(iii) any reverse merger in which the Corporation is the surviving entity but in which securities possessing more than fifty percent (50%) of the total combined voting power of the Corporation's outstanding securities are transferred to holders different from those who held such securities immediately prior to such merger

B. In the event of any Corporate Transaction, the shares of Common

Stock at the time subject to each outstanding option but not otherwise vested shall automatically vest in full so that each such option shall, immediately prior to the effective date of the Corporate Transaction, become fully exercisable for all of the shares of Common Stock at the time subject to such option and may be exercised for all or any portion of those shares as fully-vested shares of Common Stock. Immediately following the consummation of the Corporate Transaction, each automatic option grant shall terminate and cease to be outstanding, except to the extent assumed by the successor corporation (or parent thereof).

C. Each outstanding option which is assumed in connection with a Corporate Transaction or is otherwise to continue in effect shall be appropriately adjusted, immediately after such Corporate Transaction, to apply and pertain to the number and class of securities which would be issuable, in consummation of such Corporate Transaction, to an actual holder of the same number of shares of Common Stock as are subject to such option immediately prior to such Corporate Transaction, and appropriate adjustments shall also be made to the option price payable per share, provided the aggregate option price payable for such securities shall remain the same.

D. The grant of options under this Article Five shall in no way affect the right of the Corporation to adjust, reclassify, reorganize or otherwise change its capital or business structure or to merge, consolidate, dissolve, liquidate or sell or transfer all or any part of its business or assets.

IV. REMAINING TERMS

The remaining terms of each option granted under this Director Fee Option Grant Program shall be the same as the terms in effect for option grants made under the Discretionary Option Grant Program.

ARTICLE SIX
MISCELLANEOUS

I. EFFECT OF TRANSACTIONS ON OUTSTANDING OPTIONS

A. Prior to the Effective Date of the Plan, the Company's outstanding common stock was reclassified as Series B Common Stock and subjected to a 3 for 4 reverse stock split. As part of the same transaction, one-third of a share of newly authorized Series A Common Stock was distributed with respect to each outstanding share of Series B Common Stock. Under the Company's 1988 Stock Option Plan and each of the options outstanding as of the record date for such dividend ("Affected Option"), which options are incorporated under this Plan, appropriate adjustment must be made to the outstanding options to reflect such reverse stock split and stock dividend. Such appropriate adjustments were as follows:

(1) The aggregate number of shares of Common Stock available under any Affected Option shall be unchanged by the reverse stock split and stock dividend, but 75% of such total number shares of Common Stock available under such options shall be Class B Common Stock and 25% of such total number shall be Class A Common Stock.

(2) The option price per share for each share of stock available under an Affected Option will remain unchanged, and the aggregate option price for all shares available under the option will remain unchanged.

(3) Any vesting schedule imposed under an Affected Option will be applied separately to the total Class A and Class B Common Stock so that on each vesting date the holder will vest in one Class A share for every three shares of Class B Common Stock vesting on such date.

(4) Option holders may separately exercise all or any portion of the vested options of either Class of Common Stock.

B. As a result of a Conversion pursuant to the terms of the Company's Certificate of Incorporation, all outstanding shares of Class A Common Stock of the Corporation were converted into 1.33 shares of Class B Common Stock (which

became the only outstanding class of Common Stock of the Corporation). Under this Plan, each outstanding option to purchase shares of Class A Common Stock must be adjusted to reflect such conversion. Such adjustments are as follows:

(1) Each option to purchase a share of Class A Common Stock (a "Converted Option") is automatically converted into an option to purchase 1.33 shares of Common Stock.

(2) The aggregate option price per share for each Converted Option will remain unchanged, but the price per share for each share of Common Stock under a Converted Option will equal the purchase price payable for a share of Class A Common Stock divided by 1.33.

(3) Any remaining vesting schedule imposed under a Converted Option will apply to the Common Stock available under such Option.

II. LOANS

A. The Plan Administrator may, in its discretion, assist any Optionee or Participant (including an Optionee or Participant who is an officer of the Corporation) in the exercise of one or more options granted to such Optionee under the Article Two Discretionary Option Grant Program or the purchase of one or more shares issued to such Participant under the Article Four Stock Issuance Program, including the satisfaction of any Federal and State income and employment tax obligations arising therefrom by (i) authorizing the extension of a loan from the Corporation to such Optionee or Participant or (ii) permitting the Optionee or Participant to pay the option price or purchase price for the purchased Common Stock in installments over a period of years. The terms of any loan or installment method of payment (including the interest rate and terms of repayment) will be upon such terms as the Plan Administrator specifies in the applicable option or issuance agreement or otherwise deems appropriate under the circumstances. Loans and installment payments may be granted with or without security or collateral (other than to individuals who are consultants or independent contractors, in which event the loan must be adequately secured by collateral other than the purchased shares). However, the maximum credit available to the Optionee or Participant may not exceed the option or purchase price of the acquired shares (less the par value of such shares) plus any Federal and State income and employment tax liability incurred by the Optionee or Participant in connection with the acquisition of such shares.

B. The Plan Administrator may, in its absolute discretion, determine that one or more loans extended under this financial assistance program shall be subject to forgiveness by the Corporation in whole or in part upon such terms and conditions as the Plan Administrator may deem appropriate.

III. TAX WITHHOLDING

A. The Company's obligation to deliver shares or cash upon the exercise of stock options or stock appreciation rights granted under the Discretionary Option Grant Program or upon direct issuance under the Stock Issuance Program shall be subject to the satisfaction of all applicable Federal, State and local income and employment tax withholding requirements.

B. The Plan Administrator may, in its discretion and upon such terms and conditions as it may deem appropriate provide any or all holders of outstanding option grants under the Discretionary Option Grant Program with the election to have the Company withhold, from the shares of Common Stock otherwise issuable upon the exercise of such options, a portion of such shares with an aggregate Fair Market Value equal to the designated percentage (up to 100% as specified by the optionee) of the Federal and State income taxes ("Taxes") incurred in connection with the acquisition of such shares. In lieu of such direct withholding, one or more option holders may also be granted the right to deliver shares of Common Stock to the Company in satisfaction of such Taxes. The withheld or delivered shares shall be valued at the Fair Market Value on the applicable determination date for such Taxes.

IV. AMENDMENT OF THE PLAN AND AWARDS

A. The Board has complete and exclusive power and authority to amend or modify the Plan (or any component thereof) in any or all respects whatsoever. No amendment or modification may adversely affect the rights and obligations of an Optionee with respect to options at the time outstanding under the Plan, nor adversely affect the rights of any Participant with respect to Common Stock issued under the Plan prior to such action, unless the Optionee or Participant consents to such amendment or modification. In addition, certain amendments may require stockholder approval if so determined by the Board or pursuant to applicable laws or regulations.

B. (i) Options to purchase shares of Common Stock may be granted under the Discretionary Option Grant Program or the Automatic Option Grant Program and (ii) shares of Common Stock may be issued under the Stock Issuance Program, which are in both instances in excess of the number of shares then available for issuance under the Plan, provided any excess shares actually issued under the Option Grant Program, the Automatic Option Grant Program or the Stock Issuance Program are held in escrow until stockholder approval is obtained for a sufficient increase in the number of shares available for issuance under the Plan. If such stockholder approval is not obtained within twelve (12) months after the date the first such excess option grants or excess share issuances are made, then (I) any unexercised excess options shall terminate and cease to be exercisable and (II) the Corporation shall promptly refund the purchase price paid for any excess shares actually issued under the Plan and held in escrow, together with interest (at the applicable Short Term Federal Rate) for the period the shares were held in escrow.

C. On April 29, 1998, the Board amended and restated the Plan to effect the following changes (the "1998 Restatement"): (i) increase the maximum number of shares of Common Stock authorized for issuance over the term of the Plan from 7,303,457 shares to 8,088,457 shares, (ii) increase the number of shares of Common Stock for which the initial automatic option grants are to be made under the Automatic Option Grant Program from 16,237 shares to 20,000 shares and increase the number of shares of Common Stock for which the annual automatic option grants are to be made under the same program from 8,118 shares to 10,000 shares, (iii) implement a new Director Fee Option Grant Program, (iv) limit the maximum number of shares of Common Stock for which an individual may be granted options, separately exercisable stock appreciation rights and direct stock issuances over the term of the Plan to 1,000,000 shares, (v) render the non-employee Board members eligible to receive option grants and direct stock issuances under the Discretionary Option Grant and Stock Issuance Programs in effect under the Plan, (vi) remove certain restrictions on the eligibility of non-employee Board members to serve as Plan Administrator, (vii) allow unvested shares under the Plan and subsequently repurchased by the Company at the option exercise or direct issue price paid per share to be reissued under the Plan, and (viii) effect a series of additional changes to the provisions of the Plan (including the stockholder approval requirements, the transferability of Non-Statutory Options and the elimination of the six (6)-month holding requirement as a condition to the exercise of stock appreciation rights) in order to take advantage of the amendments to Rule 16b-3 of the 1934 Act which exempts certain officer and director transactions under the Plan from the short-swing liability provisions of the federal securities laws. The 1998 Restatement is subject to stockholder approval at the 1998 Annual Meeting. Until such stockholder approval is obtained, any options granted on the basis of the amendments effected by the 1998 Restatement (including the 785,000-share

increase) shall not become exercisable in whole or in part, and those options shall terminate without ever becoming exercisable for the option shares. In addition, in the absence of such stockholder approval, none of the other amendments to the Plan effected by the 1998 Restatement shall be implemented. All option grants and direct stock issuances made prior to the 1998 Restatement shall remain outstanding in accordance with the terms and conditions of the respective instruments evidencing those options or issuances, and nothing in the 1998 Restatement shall be deemed to modify or in any way affect those outstanding options or issuances. The Plan Administrator may make option grants and direct stock issuances under the Plan at any time before the date fixed herein for the termination of the Plan.

V. EFFECTIVE DATE AND TERM OF PLAN

A. This Plan, as successor to the Company's Predecessor Plans, became effective as of the Effective ate, and no further option grants shall be made under the Option Plan nor shall any further shares be issued under the Stock Plan from and after such Effective Date.

B. Each outstanding option and share issuance under the Predecessor Plans immediately prior to the Effective Date of this Plan are hereby incorporated into this Plan and shall accordingly be treated as an outstanding option or share issuance under this Plan. Each such option or share issuance shall continue to be governed solely by the terms and conditions of the instrument evidencing such grant or issuance, and except as otherwise expressly provided in this Plan, no provision of this Plan shall affect or otherwise modify the rights or obligations of the holders of such options or shares with respect to their acquisition of shares of Common Stock, or otherwise modify the rights or obligations of the holders of such options or shares.

C. The sale and remittance procedure authorized for the exercise of outstanding options under this Plan shall be available for all options granted under this Plan on or after the Effective Date and for all Non-Statutory Options outstanding under the Option Plan and incorporated into this Plan. The Plan Administrator may also allow such procedure to be utilized in connection with one or more disqualifying dispositions of Incentive Option shares effected after the Effective Date, whether such Incentive Options were granted under this Plan or the Option Plan.

D. The Plan shall terminate upon the earlier of (i) November 16, 2002, or (ii) the date on which all shares available for issuance under the Plan shall have been issued or cancelled pursuant to the exercise, surrender or cash-out of the options granted under the Discretionary Option Grant Program or the issuance of shares (whether vested or unvested) under the Stock Issuance Program. If the date of termination is determined under clause (i) above, then all option grants and unvested stock issuances outstanding on such date shall thereafter continue to have force and effect in accordance with the provisions of the instruments evidencing such grants or issuances.

VI. USE OF PROCEEDS

Cash proceeds received by the Company from the sale of shares under the Plan shall be used for general corporate purposes.

VII. REGULATORY APPROVALS

A. The implementation of the Plan, the granting of any option under the Discretionary Option Grant Program, the issuance of any shares under the Stock Issuance Program, and the issuance of Common Stock upon the exercise or surrender of the option grants made hereunder shall be subject to the Corporation's procurement of all approvals and permits required by regulatory authorities having jurisdiction over the Plan, the options granted under it, and the Common Stock issued pursuant to it.

B. No shares of Common Stock or other assets shall be issued or delivered under this Plan unless and until there shall have been compliance with all applicable requirements of Federal and State securities laws, including the filing and effectiveness of the Form S-8 registration statement for the shares of Common Stock issuable under the Plan, and all applicable listing requirements of any securities exchange on which stock of the same class is then listed.

VIII. NO EMPLOYMENT/SERVICE RIGHTS

Neither the action of the Corporation in establishing the Plan, nor any action taken by the Plan Administrator hereunder, nor any provision of the Plan shall be construed so as to grant any individual the right to remain in the employ or

service of the Corporation (or any parent or subsidiary corporation) for any period of specific duration, and the Corporation (or any parent or subsidiary corporation retaining the services of such individual) may terminate such individual's employment or service at any time and for any reason, with or

without cause.

IX. MISCELLANEOUS PROVISIONS

The provisions of the Plan shall inure to the benefit of, and be binding upon, the Corporation and its successors or assigns, whether by Corporate Transaction or otherwise, and the Participants and Optionees, the legal representatives of their respective estates, their respective heirs or legatees and their permitted assignees.

EXHIBIT "A"

AUTOMATIC GRANT OPTION PROGRAM
NON-STATUTORY OPTION AGREEMENT
NON-EMPLOYEE DIRECTORS

EXHIBIT 99.2

LIGAND PHARMACEUTICALS INCORPORATED

1992 EMPLOYEE STOCK PURCHASE PLAN
AS AMENDED THROUGH APRIL 29, 1998

I. PURPOSE

The Ligand Pharmaceuticals Incorporated 1992 Employee Stock Purchase Plan (the "Plan") is intended to provide eligible employees of the Company and one or more of its Corporate Affiliates with the opportunity to acquire a proprietary interest in the Company through the periodic application of their payroll deductions to the purchase of shares of the Company's common stock.

II. DEFINITIONS

For purposes of plan administration, the following terms shall have the meanings indicated:

Base Salary means the regular basic earnings paid to a Participant by one or more Participating Companies before deduction for any pre-tax contributions made by the Participant to any Code Section 401(k) salary deferral plan or any Code Section 125 cafeteria benefit program now or hereafter established by the Company or any Corporate Affiliate. There shall be excluded from the calculation of Base Salary (1) all overtime payments, bonuses, commissions, profit-sharing distributions and other incentive-type payments and (II) all contributions (other than Code Section 401(k) or Code Section 125 contributions) made on the Participant's behalf by the Company or one or more Corporate Affiliates under any employee benefit or welfare plan now or hereafter established.

Board means the Company's Board of Directors.

Code means the Internal Revenue Code of 1986, as amended from time to time.

Company means Ligand Pharmaceuticals Incorporated, a Delaware corporation, and any corporate successor to all or substantially all of the assets or voting stock of Ligand Pharmaceuticals Incorporated which shall by appropriate action adopt the Plan.

Common Stock means shares of the Company's Common Stock.

Corporate Affiliate means any company which is a parent or subsidiary corporation of the Company (as determined in accordance with Code Section 424), including any parent or subsidiary corporation which becomes such after the Effective Date.

Effective Date meaning November 17, 1992, the start date of the initial offering period under the Plan. However, for any Corporate Affiliate which becomes a Participating Company in the Plan after such start date, a subsequent Effective Date shall be designated with respect to participation by its Eligible Employees.

Eligible Employee means any person who is engaged, on a regularly-scheduled basis of more than twenty (20) hours per week and more than five (5) months per calendar year, in the rendition of personal services to the Company or any other Participating Company for earnings considered wages under Section 3121(a) of the Code.

Entry Date means the date an Eligible Employee first joins the offering period in effect under the Plan. The earliest Entry Date under the Plan shall be the Effective Date.

Participant means any Eligible Employee of a Participating Company who is actively participating in the Plan.

Participating Company means the Company and such Corporate Affiliate or

Affiliates as may be designated from time to time by the Board.

Quarterly Entry Date means the first business day of January, the first business day of April, the first business day of July and the first business day of October during each offering period in effect under the Plan. The earliest Quarterly Entry Date for an individual who is not otherwise eligible to join the Plan on the Effective Date shall be January 1, 1993.

Quarterly Period of Participation means each quarterly period for which the Participant actually participates in an offering period in effect under the Plan. Except as otherwise designated by the Plan Administrator, each quarterly period shall begin on the first business day of each calendar quarter and shall end on the last business day of such quarter.

Quarterly Purchase Date means the last business day of March, June, September and December each year on which shares of Common Stock are automatically purchased for Participants under the Plan.

Service means the period during which an individual remains in the employ of the Company or any Corporate Affiliate, whether or not in Eligible Employee status, and shall be measured from such individual's most recent date of hire by the Company or such Corporate Affiliate.

III. ADMINISTRATION

The Plan shall be administered by a committee (the "Plan Administrator") comprised of two or more non-employee Board members appointed from time to time by the Board. The Plan Administrator shall have full authority to administer the Plan, including authority to interpret and construe any provision of the Plan. Decisions of the Plan Administrator shall be final and binding on all parties who have an interest in the Plan.

IV. OFFERING PERIODS

A. Shares of Common Stock shall be offered for purchase under the Plan through a series of successive offering periods until such time as (i) the maximum number of shares of Common Stock available for issuance under the Plan shall have been purchased or (ii) the Plan shall have been sooner terminated in accordance with Article X.

B. The initial offering period began on November 17, 1992, and ended on the last business day in December 1993. Subsequent offering periods shall be coincidental with the calendar year and shall accordingly commence on the first business day in January each year.

C. The Participant shall be granted a separate purchase right for each offering period in which he/she participates. The purchase right shall be granted on the Entry Date on which such individual first joins the offering period in effect under the Plan and shall be automatically exercised in successive installments on each Quarterly Purchase Date within the offering period.

D. The acquisition of Common Stock through participation in the Plan for any offering period shall neither limit nor require the acquisition of Common Stock by the Participant in any subsequent offering period.

V. ELIGIBILITY AND PARTICIPATION

A. Each Eligible Employee of a Participating Company shall be eligible to participate in the Plan in accordance with the following provisions:

-- An Eligible Employee with at least five (5) months of Service on the start date of the offering period may enter that offering period on such start date, provided such individual enrolls in the offering period on or before such date in accordance with Section V.B below. That start date shall then become such individual's Entry Date for the offering

period, and on that date such individual shall be granted his/her purchase right for the offering period. Should such Eligible Employee not enter the offering period on the start date, then he/she may not subsequently join that particular offering period on any later date.

-- An individual who is not an Eligible Employee with at least five (5) months of Service on the start date of the offering period may subsequently enter that offering period on the first Quarterly Entry Date on which he/she is an Eligible Employee with at least five (5) months of Service, provided he/she enrolls in the offering period on or before such date in accordance with Section V.B below. That Quarterly Entry Date shall then become such individual's Entry Date for the offering period, and on that date such individual shall be granted

his/her purchase right for the offering period. Should such Eligible Employee not enter the offering period on the first Quarterly Entry Date on which he/she is first eligible to join the offering period, then he/she may not subsequently join that particular offering period on any later date.

B. To participate for a particular offering period, the Eligible Employee must complete the enrollment forms prescribed by the Plan Administrator (including the purchase agreement and payroll deduction authorization) and file such forms with the Plan Administrator on or before his/her scheduled Entry Date.

C. The payroll deduction authorized by the Participant for purposes of acquiring shares of Common Stock under the Plan may be any multiple of one percent (1%) of the Base Salary paid to the Participant during each Quarterly Period of Participation within the offering period, up to a maximum of ten percent (10%). The deduction rate so authorized shall continue in effect for the remainder of the offering period, except to the extent such rate is changed in accordance with the following guidelines:

-- the Participant may, at any time during the Quarterly Period of Participation, reduce his/her rate of payroll deduction. Such reduction shall become effective as soon as possible after filing of the requisite reduction form with the Plan Administrator (or its designate), but the Participant may not effect more than one such reduction during the same Quarterly Period of Participation.

-- The Participant may, prior to the commencement of any new Quarterly Period of Participation within the offering period, increase or decrease the rate of his/her payroll deduction by filing the appropriate form with the Plan Administrator (or its designate). The new rate (which may not exceed the ten percent (10%) maximum) shall become effective as of the first date of the first Quarterly Period of Participation following the filing of such form.

-- Payroll deductions will automatically cease upon the termination of the Participant's purchase right in accordance with the applicable provisions of Section VII below.

VI. STOCK SUBJECT TO PLAN

A. The Common Stock purchasable by Participants under the Plan shall, solely in the discretion of the Plan Administrator, be made available from either authorized but unissued shares of Common Stock or from shares of Common Stock reacquired by the Company, including shares of Common Stock purchased on the open market. The total number of shares which may be issued under the Plan shall not exceed 265,000 shares of Common Stock (provided that, for this purpose, each issuance of Class A Common Stock occurring prior to November 24, 1994 shall be treated as if it were an issuance of 1.33 shares of Common Stock).

Such share reserve includes the 58,500-share increase approved by the Board on April 29, 1998, subject to stockholder approval at the 1998 Annual Meeting. The number of shares of Common Stock issuable under the Plan shall be adjusted from time to time in accordance with Section VI.B hereof.

B. In the event any change is made to the Company's outstanding Common Stock by reason of any stock dividend, stock split, combination of shares or other change affecting such outstanding Common Stock as a class without receipt of consideration, then appropriate adjustments shall be made by the Plan Administrator to (i) the class and maximum number of shares issuable over the term of the Plan, (ii) the class and maximum number of shares purchasable per Participant during any one offering period and (iii) the class and number of shares and the price per share in effect under each purchase right at the time outstanding under the Plan. Such adjustments shall be designed to preclude the dilution or enlargement of rights and benefits under the Plan.

XVI. PURCHASE RIGHTS

An Employee who participates in the Plan for a particular offering period shall have the right to purchase shares of Common Stock, in a series of successive quarterly installments during such offering period, upon the terms and conditions set forth below and shall execute a purchase agreement embodying such terms and conditions and such other provisions (not inconsistent with the Plan) as the Plan Administrator may deem advisable.

Purchase Price. Common Stock shall be issuable at the end of each Quarterly Period of Participation at a purchase price equal to eighty-five percent (85%) of the lower of (i) the fair market value per share on the Participant's Entry Date into the offering period or (ii) the fair market value per share on the Quarterly Purchase Date on which such Quarterly Period of Participation ends. However, for each Participant whose Entry Date is other than the start date of the offering period in effect under the Plan, the clause (i) amount shall in no event be less than the fair market value of the Common Stock on the start date of such offering period.

Valuation. For purposes of determining the fair market value per share of Common Stock on any relevant date the fair market value shall be the closing selling price on that date, as officially quoted on the Nasdaq National Market. If there is no quoted selling price for such date, then the closing selling price on the next preceding day for which there does exist such a quotation shall be determinative of fair market value.

Number of Purchasable Shares. The number of shares purchasable per Participant for each Quarterly Period of Participation shall be the number of whole shares obtained by dividing the amount collected from the Participant through payroll deductions during such Quarterly Period of Participation by the purchase price in effect for the Quarterly Purchase Date on which such Quarterly Period of Participation ends. However, no Participant may, during any one offering period, purchase more than 1,330 shares of Common Stock, subject to periodic adjustment under Section VI.B.

Under no circumstances shall purchase rights be granted under the Plan to any Eligible Employee if such individual would, immediately after the grant, own (within the meaning of Code Section 424(d)) or hold outstanding options or other rights to purchase, stock possessing five percent (5%) or more of the total combined voting power or value of all classes of stock of the Company or any of its Corporate Affiliates.

Payment. Payment for the Common Stock purchased under the Plan shall be effected by means of the Participant's authorized payroll deductions. Such deductions shall begin on the first pay day coincident with or immediately following the Participant's Entry Date into the offering period and shall (unless sooner terminated by the Participant) continue through the pay day ending with or immediately prior to the last day of the offering period. The amounts so collected shall be credited to the Participant's book account under the Plan, but no interest shall be paid on the balance from time to time outstanding in such account. The amounts collected from a Participant may be commingled with the general assets of the Company and may be used for general corporate purposes.

Termination of Purchase Right. The following provisions shall govern the termination of outstanding purchase rights:

(i) A Participant may, at any time prior to the last five (5) business days of the Quarterly Period of Participation, terminate his/her outstanding purchase right under the Plan by filing the prescribed notification form with the Plan Administrator (or its designate). No further payroll deductions shall be collected from the Participant with respect to the terminated purchase right, and any payroll deductions collected for the Quarterly Period of Participation in which such termination occurs shall, at the Participant's election, be immediately refunded or held for the purchase of shares on the next Quarterly Purchase Date. If no such election is made, then such funds shall be refunded as soon as possible after the close of such Quarterly Period of Participation.

(ii) The termination of such purchase right shall be irrevocable, and the Participant may not subsequently rejoin the offering period for which such terminated purchase right was granted. In order to resume participation in any subsequent offering period, such individual must re-enroll in the Plan (by making a timely filing of a new purchase agreement and payroll deduction authorization) during the applicable enrollment period for the new offering.

(iii) If the Participant ceases to remain an Eligible Employee while his/her purchase right remains outstanding, then such individual (or the personal representative of the estate of a deceased Participant) shall have the following election, exercisable up until the end of the Quarterly Period of Participation in which the Participant ceases Eligible Employee status:

-- to withdraw all of the Participant's payroll deductions for such Quarterly Period of Participation, or

-- to have such funds held for the purchase of shares on the Quarterly Purchase Date immediately following such cessation of Eligible Employee status.

If no such election is made, then such funds shall be refunded as soon as possible after the close of such Quarterly Period of Participation. In no event, however, may any payroll deductions be made on the Participant's behalf following his/her cessation of Eligible Employee status.

Stock Purchase. Shares of Common Stock shall automatically be purchased on behalf of each Participant (other than Participants whose payroll deductions have previously been refunded in accordance with the Termination of Purchase Right provisions above) on each Quarterly Purchase Date. The purchase shall be effected by applying each Participant's payroll deductions for the Quarterly Period of Participation ending on such Quarterly Purchase Date (together with any carryover deductions from the preceding Quarterly Period of Participation) to the purchase of whole shares of Common Stock (subject to the limitation on the maximum number of purchasable shares set forth above) at the purchase price in effect for such Quarterly Period of Participation. Any payroll deductions not applied to such purchase because they are not sufficient to purchase a whole share shall be held for the purchase of Common Stock in the next Quarterly Period of Participation. However, any payroll deductions not applied to the purchase of Common Stock by reason of the limitation on the maximum number of shares purchasable by the Participant for that offering period shall be promptly refunded to the Participant.

Proration of Purchase Rights. Should the total number of shares of Common Stock which are to be purchased pursuant to outstanding purchase rights on any particular date exceed the number of shares then available for issuance under the Plan, the Plan Administrator shall make a pro-rata allocation of the available shares on a uniform and nondiscriminatory basis, and the payroll deductions of each Participant, to the extent in excess of the aggregate purchase price payable for the Common Stock pro-rated to such individual, shall be refunded to such Participant.

Rights as Stockholder. A Participant shall have no stockholder rights with respect to the shares subject to his/her outstanding purchase right until the shares are actually purchased on the Participant's behalf in accordance with

the applicable provisions of the Plan. No adjustments shall be made for dividends, distributions or other rights for which the record date is prior to the date of such purchase.

A Participant shall be entitled to receive, as soon as practicable after each Quarterly Purchase Date, a stock certificate for the number of shares purchased on the Participant's behalf. Such certificate may, upon the Participant's request, be issued in the names of the Participant and his/her spouse as community property or as joint tenants with right of survivorship.

Assignability. No purchase right granted under the Plan shall be assignable or transferable by the Participant other than by will or by the laws of descent and distribution following the Participant's death, and during the Participant's lifetime the purchase right shall be exercisable only by the Participant.

Change in Ownership. Should the Company or its stockholders enter into an agreement to dispose of all or substantially all of the assets or outstanding capital stock of the Company by means of:

(i) a sale, merger or other reorganization in which the Company will not be the surviving corporation (other than a reorganization effected primarily to change the State in which the Company is incorporated), or

(ii) a reverse merger in which the Company is the surviving corporation but in which more than 50% of the Company's outstanding voting stock is transferred to holders different from those who held the stock immediately prior to the reverse merger,

then all outstanding purchase rights under the Plan shall automatically be exercised immediately prior to the consummation of such sale, merger, reorganization or reverse merger by applying the payroll deductions of each Participant for the Quarterly Period of Participation in which such transaction occurs to the purchase of whole shares of Common Stock at eighty-five percent (85%) of the lower of (i) the fair market value of the Common Stock on the Participant's Entry Date into the offering period in which such transaction occurs or (ii) the fair market value of the Common Stock immediately prior to the consummation of such transaction. However, the applicable share limitations of Articles VII and VIII shall continue to apply to any such purchase, and the clause (i) amount above shall not, for any Participant whose

Entry Date for the offering period is other than the start date of such offering period, be less than the fair market value of the Common Stock on such start date.

The Company shall use its best efforts to provide at least ten (10)-days advance written notice of the occurrence of any such sale, merger, reorganization or reverse merger, and Participants shall, following the receipt of such notice, have the right to terminate their outstanding purchase rights in accordance with the applicable provisions of this Article VII.

VIII. ACCRUAL LIMITATIONS

A. No Participant shall be entitled to accrue rights to acquire Common Stock pursuant to any purchase right outstanding under this Plan if and to the extent such accrual, when aggregated with (I) rights to purchase Common Stock accrued under any other purchase right outstanding under this Plan and (II) similar rights accrued under other employee stock purchase plans (within the meaning of Section 423 of the Code) of the Company or its Corporate Affiliates, would otherwise permit such Participant to purchase more than $25,000 worth of stock of the Company or any Corporate Affiliate (determined on the basis of the fair market value of such stock on the date or dates such rights are granted to the Participant) for each calendar year such rights are at any time outstanding.

B. For purposes of applying such accrual limitations the right to acquire Common Stock pursuant to each purchase right outstanding under the Plan

shall accrue as follows:

(i) The right to admire (Common Stock under each such purchase right shall accrue in a series of successive quarterly installments as and when the purchase right first becomes exercisable for each quarterly installment on the last business day of each Quarterly Period of Participation for which the right remains outstanding.

(ii) No right to acquire Common Stock under any outstanding purchase right shall accrue to the extent the Participant has already accrued in the same calendar year the right to acquire $25,000 worth of Common Stock (determined on the basis of the fair market value on the date or dates of grant) pursuant to one or more purchase rights held by the Participant during such calendar year.

(iii) If by reason of such accrual limitations any purchase right of a Participant does not accrue for a particular Quarterly Period of Participation? then the payroll deductions which the Participant made during that Quarterly Period of Participation with respect to such purchase right shall be promptly refunded.

C. In the event there is any conflict between the provisions of this Article VIII and one or more provisions of the Plan or any instrument issued thereunder, the provisions of this Article VIII shall be controlling.

IX. STATUS OF PLAN UNDER FEDERAL TAX LAWS

The Plan is designed to qualify as an employee stock purchase plan under Code Section 423. Accordingly, the Participant will not recognize any taxable income at the time one or more shares of Common Stock are purchased on his/her behalf on any Quarterly Purchase Date under the Plan.

X. AMENDMENT AND TERMINATION

A. The Board may alter, amend, suspend or discontinue the Plan following the close of any Quarterly Period of Participation. However, the Board may not, without the approval of the Company's stockholders:

(i) increase the number of shares issuable under the Plan or the maximum number of shares which may be purchased per Participant during any one offering period under the Plan, except that the Plan Administrator shall have the authority, exercisable without such stockholder approval, to effect adjustments to the extent necessary to reflect changes in the Company's capital structure pursuant to Section VI.B;

(ii) alter the purchase price formula so as to reduce the purchase price payable for the shares issuable under the Plan; or

(iii) materially increase the benefits accruing to Participants under the Plan or materially modify the requirements for eligibility to participate in the Plan.

B. The Company shall have the right, exercisable in the sole discretion of the Plan Administrator, to terminate all outstanding purchase rights under the Plan immediately following the close of any Quarterly Period of Participation. Should the Company elect to exercise such right, then the Plan shall terminate in its entirety. No further purchase rights shall thereafter be granted or exercised, and no further payroll deductions shall thereafter be collected, under the Plan.

C. On April 29, 1998, the Board amended the Plan to increase the maximum number of shares of Common Stock authorized for issuance over the term of the Plan from 206,500 shares to 265,000 shares. This amendment to the Plan is subject to stockholder approval at the 1998 Annual Meeting.

XI. GENERAL PROVISIONS

A. The Plan shall terminate upon the earlier of (i) December 31, 2002 or (ii) the date on which all shares available for issuance under the Plan shall have been sold pursuant to purchase rights exercised under the Plan.

B. All costs and expenses incurred in the administration of the Plan shall be paid by the Company.

C. Neither the action of the Company in establishing the Plan, nor any action taken under the Plan by the Board or the Plan Administrator, nor any provision of the Plan itself shall be construed so as to grant any person the right to remain in the employ of the Company or any of its Corporate Affiliates for any period of specific duration, and such person's employment may be terminated at any time, with or without cause.