APPENDIX 2

COMPLETE PATENT MANAGEMENT

A New Option Under Research Corporation's Invention Administration Program

I. Introduction

Technological advancement is the key to the nation's economic recovery in the 1980s. Our universities represent the basic research establishment from which will come the intellectual seed for new industrial technology. Although economic necessity dictates that we strongly support academic researchers, an analysis by the American Association for the Advancement of Science shows a constant-dollar decline of about five percent in government support since 1980 due to inflation. At the same time, growing sophistication has placed state-of-the art instrumentation beyond the reach of all but the best-financed laboratories. Economic and technological factors are thus combining to foster closer relationships between industry and higher education.

In order to help universities meet the economic and technological challenges of the era, Research Corporation's Invention Administration Program is reorienting and expanding its technology identification transfer and administration services. These services will continue to be freely available to institutional administrators who wish to use them. A new program option--"Complete Patent Management"--will be offered

to major research universities. Under this option, Research Corporation will provide individual invention programs designed to meet the specific needs of host institutions.

II. Present Services--Selected Portfolio Management

Research Corporation currently maintains invention administration agreements with a variety of universities and other nonprofit institutions. Under these agreements, inventions may be disclosed to the Foundation at the election of the institution. Research Corporation's professional program staff evaluates the technical feasibility, patentability and commercial potential of each disclosure. A favorable evaluation leads to acceptance for administration by the Foundation, including patenting and licensing to industry in all countries where warranted. These services are provided entirely at Research Corporation's expense with no charge to the institutions or inventors.

The Foundation will continue to offer this option to nonprofit institutions. It offers a cost-effective method for most educational and nonprofit research organizations to transfer technology to the industrial sector and to realize a return. A second option for those universities heavily involved in sponsored research is outlined below.

Program Staff Evaluates the

III. New Services--Complete Patent Management

Under this new option, Research Corporation will assist a limited number of major research universities in programs that include direct commercial/industrial interaction. Each program will be designed to meet the specific needs of the client university, and will greatly extend--rather than replace--present internal invention management programs. Those now responsible for patenting and licensing at a given institution will play an integral role in tailoring an enhanced effort that will include: on-campus assistance; regular communication with faculty members; help in attracting industrial research support; and technology transfer by licensing out, venture capital and entrepreneurial techniques.

The activities that will be undertaken by the Foundation's Invention Administration Program under the Complete Patent Management option are outlined below:

1. Present a specially designed patent awareness program for the university's faculty, administration, and graduate students

2. Provide on-campus representation for regular meetings with faculty members to discuss questions concerning technology transfer, and to establish the one-to-one contacts necessary for early invention identification

III. New Services--Complete Patent Management (continued)

3. Furnish advice to both faculty and administration on various patent issues ranging from questions of patent law, to federal government policies, to areas of industrial interest (Note: Advice on such issues as patent validity and infringement will come from counsel retained by the Foundation)

4. Provide written reports for guidance on all submitted disclosures

5. Use flexible methods to achieve development and application of inventions (licensing out; development or venture capital; other entrepreneurial techniques)

6. Undertake international patenting and licensing campaigns

7. Help in attracting support for those research initiatives which appear to have commercial potential (e.g., industrial contracts/grants, venture capital, R&D tax shelters, etc.)

Responsibilities, costs and benefits under the new option:

1. The Foundation will become, for a period of five years, the exclusive licensing agent for the university (The rights granted to the Foundation will be subject to the following general restrictions: the university can veto the filing of any patent application if it deems such action not to be in the public interest; and the university can retain certain recapture rights on an invention-by-invention basis, if the Foundation's results are judged unsatisfactory under criteria to be established)

2. The Foundation will construct and fund a six-phase patent/licensing program, assuming all costs, and eliminating university expenses for internal patent programs

3. Gross royalties (all income) generated by the Foundation would be split, with the university receiving approximately 60% and the Foundation 40%

4. The Foundation, through Research Corporation's grants division, will establish a special grant program for the client university with up to 50% of the gross royalties it retains after all Complete Patent Management program costs have been met (i.e., university 60%, Foundation 20%, and "special grant program" 20% of total gross royalties)

The complete patent management program mentioned above (II) includes the following six phases:

Phase I - University Research Evaluation
Phase II - Patent Awareness
Phase III - Monitoring and Consultation
Phase IV - Evaluation and Protection
Phase V - Technology Transfer
Phase VI - License Administration

Phase I - Analysis. The Foundation will make a study of the participating university, its philosophy, its faculty and staff. An analysis team will gather data and design an optimal approach for Foundation-university interaction. The team will visit for at least several days following a preliminary review of the university's organizational and policy-making structures, present research activities, most active principal investigators, past patenting/licensing activities and present

Phase I - Analysis (continued)

administrative processes for handling patent identification and reporting. During the visit, the analysis team will meet with the provost(s) and the dean(s), selected department heads, and key faculty researchers.

Using the results of the preliminary review and data gathered on campus, the analysis team will determine the university's needs, the commercial potential of ongoing research, and goals and expectations to be incorporated in an appropriate technology transfer program.

Phase II - Awareness. A program based on the results of Phase I will be offered to faculty and staff members to acquaint or reacquaint them with the requirements for technology transfer and its importance to society, the university, and to the furtherance of academic investigation. Since fostering awareness is both an important and ongoing process, some periodicity would be associated with Phase II.

Phase III - Monitoring. Continuous monitoring of the university's research programs will insure early identification of inventions by an on-campus Foundation representative with expertise in patent procedures and an understanding of the various types of technology transfer. The emphasis will be on

Phase III - Monitoring (continued)

communication and interaction. The represenative will establish personal contacts with investigators so that proper advice can be communicated and assistance rendered in timely fashion.

A second vital element in the monitoring process will be periodic campus visits by the Foundation's staff professionals to discuss technology transfer with faculty members, to answer questions on making disclosures, to help identify inventions and to report on patenting and licensing projects. These professionals will also make themselves available to university administrators to help establish the most productive methods for reviewing research and reporting invention disclosures to the Foundation and sponsoring agencies. They will also assist in furthering mutually beneficial interactions between the university and industry.

Phase IV - Evaluation. Although submitted disclosures will be evaluated on a case-by-case basis, certain basic criteria will apply in any assessment:

1. Technical Feasibility;
2. Patentability; and
3. Commercial Potential.

Phase IV - Evaluation (continued)

The fundamental question which must be answered for an invention emerging with otherwise favorable prospects is: "Can this discovery be duplicated commercially in a reliable and economical way?" The transition from laboratory discovery to marketable product is often more difficult than academic investigators realize; standards which may be unfamiliar are applied in making a determination.

The evaluation of patentability begins with an assessment of "prior art." In this process, the attorney and inventor attempt to distinguish how the invention differs from prior art so that potential patent protection can be defined. (Limited patent protection is almost always achievable. The real question is whether or not sufficient patent protection can be obtained to support a reasonable licensing program.)

With technical feasibility and patentability established, the commercial potential of the invention must be gauged. This parameter is typically the most difficult to measure particularly where the invention represents an important new breakthrough. In some cases, highly favorable evaluations and assurances of a market are rendered meaningless by the very newness of the concept, coupled with the NIH (Not Invented Here) factor.

of prior art. In

Phase IV - Evaluation (continued)

Commercial exploitation notwithstanding, a patent application will be filed for any invention which represents a major advance in technology and for which significant patent protection appears available. Similarly, a patent will be appplied for if there is significant interest expressed by potential licensees in an invention--again, provided that reasonable patent protection can be expected. The inventor will always be involved in the decision-making process.

Also of importance are "Research Ideas" (university projects which are not quite inventions--lacking proof-of-principle, prototype development, etc.), which have rather attractive commercial potential but need development funding and/or joint industrial development before their true value can be assessed. Obviously, different criteria should be used in evaluating these opportunities. The Foundation's Complete Patent Management program is designed to help the university take advantage of these situations.

Phase V - Licensing. The first step in the actual transfer of technology is the development of a licensing strategy by a "licensing team" (the inventor is included if he desires). The following basic steps are typically carried out by the licensing team:

1. Working from the Foundation's knowledge and that of the inventor, the team establishes a list of "target" companies. The list includes companies anywhere in the world, which, in the collective judgment of the inventor and knowledgeable team members, comprise the most desirable licensees for the technology in question. The criteria for selection include an assessment of the company's developmental resources, marketing skills, existing product lines, etc.

2. The Foundation approaches high-level personal contacts in larger companies. The Foundation devotes much effort to making and maintaining such contacts and keeping them current.

Phase V - Licensing (continued)

3. To the extent that interest is generated in "target" companies, the Foundation will negotiate patent licenses or options to take licenses. Reasonable terms for licenses vary from invention to invention and are based upon such considerations as:
   a) Estimated savings (if any) that the licensee may derive from the use of the invention;
   b) Anticipated strength of the patent protection;
   c) Value of the invention to the licensee;
   d) Estimated development costs to the licensee;
   e) University investment in research and development;
   f) Industry practice; and
   g) Viable technical alternatives available to the licensee.

During the frequently protracted negotiation period, the Foundation has as its principal objective the encouragement of the broadest possible use of the technology over the life of a patent. This consideration dictates reasonableness in terms and conditions.

While the patent/licensing agreement mode remains the Foundation's primary means of technology transfer, alternate mechanisms are available under Complete

Phase V - Licensing (continued)

Patent Management. The choice of an alternate will depend upon the results of the evaluation study and the strategy developed for achieving application of an invention. In order to take advantage of venture capital and entrepreneurial approaches, the Foundation will establish an appropriate commercial subsidiary.

There are five basic transfer modes available to the Foundation:

1. Patenting and licensing out - Under this mode, the Foundation will attempt to establish patent/license agreements as the primary means of technology transfer. These agreements will be either exclusive or nonexclusive, depending upon the results of the evaluation study and the developed licensing strategy.

2. Entrepreneurship - Certain technologies, for a variety of economic and scientific reasons, lend themselves to the creation of an independent company for maximum commercial exploitation and return on investment. The establishment of a new company brings all the problems and pressures associated with new business start-ups to the already burdensome task of scientific development and technology refinement. However, with

Phase V - Licensing (continued)

2. Entrepreneurship (continued)

the addition of capital and professional skills of a proven business/product manager, chances for success are maximized.

3. Venture Capital - The Foundation will attempt to obtain funding for additional university research and development, product enhancement, and/or market entry in certain cases. The venture capitalist would receive for his participation an appropriate share of royalty income if and when the invention is commercialized. With the invention made a licensable commodity through the influx of capital, the Foundation will, in most instances, proceed with conventional licensing activities in order to place the technology in the marketplace.

4. Joint University/Industry Development - Applicable to inventions that are, in their present state, unlicensable (or are untested "Research Ideas"). Where the Foundation has identified a company which is interested in the research/product area represented by the invention, it will initiate joint

Phase V - Licensing (continued)

4. Joint University/Industry Development (continued)

university/industry arrangements aimed at the development and marketing of the university-conceived technology. These interactions could also lead to joint industry/university proposals for federal support.

5. R&D Partnerships - Certain technologies, when coupled with investigator desires, may lend themselves to this form of transfer. A single technology or package of technical expertise may, in some instances, be organized into limited partnerships wherein private and/or institutional investors will invest research and development funds for the refinement of a technology or product. Such arrangements may be made in exchange for tax deductions and shares of future royalties; other royalties are shared between the university, investigator and the Foundation.

(NOTE: Combinations of two or more of these strategies may be used for a specific development.)

Phase VI - License Administration - The Foundation will monitor the performance of licensees and other parties to a technology transfer agreement in an effort to insure that contractual obligations are fulfilled. The Foundation will follow the market trends in licensed technologies to maximize the use of its patents and to realize their full market potential.

DRAFT

June 1, 1983

D. Bruce Merrifield
Assistant Secretary
Productivity, Technology and Innovation
Department of Commerce
Washington, D. C. 20230

Dear Dr. Merrifield:

Research Corporation is a charitable, private foundation created to advance science and technology--to support scholarly research in the sciences, and to make inventions and patent rights more available and effective in the useful arts and manufactures. Traditional activity of the Research Corp. has been to provide assistance to scientific institutions and licensees participating in its Invention Administration Program by accepting assignment of inventive discoveries that appear patentable, useful and marketable; seeking patent protection; and, carrying out planned licensing campaigns. We represent over 250 universities and nonprofit institutions in a non-exclusive manner. The decision to request Research Corp. assistance belongs to the University on a case-by-case basis and the decision to actively seek licensing on a new invention belongs to the Research Corp. with the option to return the invention right to the University for indepent action.

The Research Corporation is developing a new option. We will assist a limited number of major research universities in programs that include direct commercial/industrial interaction. Each program will be designed to meet the specific needs of the client university, and will greatly extend--rather than replace--internal invention management programs. Those now responsible for patenting and licensing at a given institution will play an integral role in tailoring an enhanced effort that will include: on-campus assistance; regular communication with faculty members; help in attracting industrial research support; and technology transfer by licensing out, venture capital and entreprenuerial techniques. A key element, non-traditional approaches, will include research and development limited partnerships. The feed-stock for this effort will be new inventions in universities and federal laboratories--federally funded research and development which has resulted in a reservoir of inventions(assets?) available to spur innovation, productivity, and economic development to create new employment opportunities.

A critical element in generating the formation of research and development limited partnerships is contact with -----GENERIC DESCRIPTION OF THE KINDS OF BROKERS DESIRED BY RESEARCH CORP. AND INDIVIDUAL IDENTIFICATIONS WERE POSSIBLE----- We appreciate the

pivotal role the Productivity, Technology and Innovation program is playing in facilitating efforts in the private sector to develop RDLP's and have discussed our new approaches with Lance Felker, Director, Industrial Technology Partnership Program and Norman Latker, Director, Federal Patent Policy Program. We believe that the Department of Commerce could assist the Research Corp. and others interested in pursuing the option of RDLP's by providing introductions to the senior level, policy personnel within the broker companies described above.

The Research Corporation understands that the role of facilitator, bringing together the critical elements of the RDLP's, does not suggest an endorsement of individual parties. Rather, we seek your continued endorsement of the new concept--RDLP's--that may further the utilization of federally developed new technologies by encouraging communication among all interested parties. All will benefit. But, more significantly, the national economy will improve.

I look forward to discussing futher with you our developing approaches and meeting with brokerage houses ~~that you believe it would be useful~~ to develop continuing dialogue.

Sincerely,

DRAFT

CONTENT DOUBLE SPACED

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Sincerely,

Options

(1) Grant + exchange of letters

Pro
- Let each activity proceed
- Lower visibility and risk
- Least formal

Con
- Least formal

(2) Cooperative Agreement (Covering total relationship)

Pro
- Most complete statement of relationship
- Most formal / halo effect

Con
- Highest visibility / highest risk
- Could delay all activities till funding is set

(3) MOU + Grant

Pro
- Separates funding from other activities
- Gives a halo effect w/o rigidity.
- Flexible

Con
- ? on use of MOU.

Mutual Areas of Interest

Early Identification of new ideas

More complete Transfer of new technologies from universities

Establish "Facilitator" Role
a. Build base of support in University
b. Establish extended relationships.

→ Demonstrate Facilitator Role — Report (##)

Systematize Regional Small business and regional economic development network

~~Duplicate~~

Build a broader "Facilitator" community.

Sell to a broader university audience

~~Demonstrate for~~

Use a full range of communicating strategies vehicles.

(old NSP - difference)

→ building towards A Regional/ National meeting for Universities & National Labs

Establish Financing Vehicles · LPRD

2-3 pages to Commerce

① EDA Route

② work Statement

Objectives

(see draft)

Background

(NSF grant work)

Methodology

Benefits (Significance)

~~Funding~~ Resources Required

1. $
2. DOC participation ← (help with it) Cooperative Agreement

Timing

18 mos.

Objective: Increase U.S. competitiveness and productivity by making fullest use of the basic research structure in American universities. Specifically;

- o Build a support base for commercialization of new technologies in the university community
  - Increase the priority for technology transfer/commercialization activities
  - Establish a trial relationship with a "facilitator" organization
- o Demonstrate the effectiveness of a "facilitator" role in aiding universities
  - Increase early identification of new ideas with commercialization potential
  - Expand the array of commercialization mechanisms to include "nontraditional" vehicles like research and development limited partnerships (RDLPs)

~~#~~

* 1. Early technology identification.

* 2. ~~Management plan~~ Commercialization strategy

* 3. Intellectual property protection

* 4. Method of evaluation

\+ 5. Conflict

6. Licensing

7. Promotion