

**Recommendations of the Ad Hoc Committee on
Technology and Intellectual Property**

April 14, 2006

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Executive Summary

The Opportunity

Research is growing rapidly at Portland State University and has great strategic importance for the future of the institution. The expanding research program is yielding new technology and intellectual property that has the potential to be of significant value to the university, to individual professors and students, and to economic development in the region. However, growth in research and intellectual property creation is creating operational pressures that must be addressed to successfully capitalize on these opportunities. In September, 2005, Provost Roy Koch charged this committee to make recommendations for an appropriate structure and resources to support the commercialization of scientific and technological research at PSU, to identify best practices that should be adopted, and to make specific recommendations suitable for implementation by the start of the 2006/07 academic year.

PSU has a unique opportunity to be creative and entrepreneurial in addressing technology and intellectual property commercialization since there is relatively little infrastructure currently in place. The committee spent time considering alternative models and best practices as reflected in other, more mature, technology transfer programs across a range of university sizes. The recommendations in this report are intended to be appropriate to the current size of the research program at PSU, to provide urgently needed capabilities, and to provide a solid foundation on which an exemplary program can be developed in future years as the research base continues to grow. The recommendations contained in this report do not require any changes beyond the control of PSU.

In addition, we identified several opportunities for constructive changes in the way technology transfer is handled within the Oregon University System and within Oregon's statutes. We believe these opportunities merit consideration as well. We would be pleased to elaborate on these opportunities in a separate report or to assist any other group assigned to explore such opportunities.

Vision for Leadership in Technology and Intellectual Property

Going forward, the approach to creating new infrastructure should be grounded in a visionary concept of the role of technology and intellectual property within the university. We propose that this vision include the following elements:

- **Recognize and capture intellectual property created within the university**
 - Training, coaching, and assistance to faculty, students, and staff who create technology and intellectual property
 - Facilitate the disclosure of inventions and intellectual property
 - Aggressive investment in patents and intellectual property protection
- **Provide outreach and support to faculty, students, and staff who wish to commercialize their work as entrepreneurs**
 - Assist faculty and university-related small businesses with SBIR, STTR and other start-up grants
 - Link faculty and university-related small businesses with seed and venture capital, incubators and other start-up resources
 - Assist in developing policies that promote faculty and student entrepreneurship
- **Expand the benefits of university-created technology and intellectual property to PSU and the community**
 - Aggressive and flexible licensing of technology
 - Aggressive outreach to build university-company R&D partnerships
 - Facilitate spin-off companies around university technology
 - Establish partnerships with economic development organizations

Recommendations

We have made specific recommendations that will embrace this vision and provide the critical foundation of infrastructure to enable PSU to capture the benefits of the intellectual property that has already been created and to become proactive in promoting increased creative and entrepreneurial activity in the future. The following are the specific recommendations we propose:

- **Increase support for patent protection of PSU inventions**
 - AY 06/07: Budget \$126,000 for legal and filing costs for patents
 - Currently 14 disclosures in-hand which will be pruned to ~7 patents through analysis of commercial opportunity and value

- Anticipate that the number of patents filed will more than double in the next 5 years
- **Establish and staff a Commercialization Office**
 - Current staff devoted to these activities are ~0.5 FTE, seriously inadequate for the current level of activity and opportunity
 - AY06/07: Increase the staff in this function to 2 FTE
 - Most critical need is recruitment of a highly qualified Commercialization Director to start as early in AY06/07 as possible
 - Support staff: Patent and Licensing Assistant (0.5 FTE) and Support Staff (0.5 FTE)

The time is right for the recommended changes. The growing portfolio of research is creating great opportunities as well as urgent needs for operational changes. If PSU embraces the vision for the role of a Commercialization Office developed during this study, we are confident that the University, university community, and region will all benefit from enhanced economic development resulting from the growing research portfolio at Portland State University. By far the greatest leverage will come from hiring a talented and well prepared individual as the Commercialization Director. This individual will provide essential leadership to this initiative. We urge you to initiate recruitment at the earliest opportunity.

We appreciate the opportunity to respond to the charge to make recommendations for an appropriate structure and resources to support the commercialization of scientific and technological research at PSU. We would be pleased to respond in more detail to any questions this report may raise.

Prepared by the Ad Hoc Committee on Technology and Intellectual Property:

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1) Background and Current Situation

Technology transfer is a term typically used to describe a set of functions that move University created / owned intellectual property into the public arena, typically through the development of commercial products which utilize that intellectual property. The impetus for such activity emerges from multiple obligations and opportunities for the University:

- a. Under the Bayh-Dole Act the University retains title to intellectual property generated through federally sponsored research activity, but does so with the obligation to actively pursue the commercialization of such intellectual property. Thus, active technology transfer is one of the conditions of receiving significant federal research funding.
- b. Under the rules of the Oregon University System, it is expected that faculty research will result in the “discovery of new knowledge in the form of inventions, technological improvements, and the production of educational and professional materials. It shall be the general policy of the Board that such results be made available to the public in the most expeditious manner.” (Full Administrative Rules in Appendix A)
- c. A portion of PSU’s mission statement is “to enhance the intellectual, social, cultural and economic qualities of urban life.” Consistent with that objective, the process of technology transfer is designed to improve the quality of life, both through the application of research results and through the economic development which can accompany that commercialization process.

Since the starting point for the typical technology transfer activity is University created / owned intellectual property, the level of technology transfer activity is loosely derived from the level of research activity, particularly sponsored research. Portland State University has experienced a substantial growth in sponsored research over the past decade (from \$13.2 M in 1994-5 to over \$35M in 2004-5), and particularly in the Sciences and Engineering in the recent past. As another indicator of this growth, in

2004-5 the Office of Research and Sponsored Projects at PSU received 14 invention disclosures, which may be considered the first formal step in the technology transfer process. As a result of that growth, increased attention must be given to the systematic development of the technology transfer function. Such an approach to the development of technology requires the devotion of significant resources (staffing and financial supports), and the development (and communication) of policies and processes to encourage such transfer and commercialization.

Current and recent technology transfer practices at PSU have included subcontracting to other universities for technology transfer services and the use of faculty with interest in the area to provide developmental services. The recent growth in invention disclosures may be in part attributable to the presence of those additional resources, and a growing recognition among faculty of the possible role for technology transfer in the dissemination of the fruits of their scholarship. In 2005 PSU hired its first University Commercialization Officer, increased the number of staff within the Office of Research and Sponsored Projects with technology transfer responsibilities as part of their position assignments, and obtained technology transfer management software, INTEUM. Those initial steps provide the basis for the recommendations in this report, which describes a systematic increase in the University's technology transfer capacity.

Other resources at PSU that contribute to the technology transfer function include the Portland Business Accelerator and the Lab to Market (L2M) project supported by NSF. The L2M project in particular is designed to increase the knowledge that faculty researchers have of technology transfer potential and assist them with the process of commercialization.

In addition to resources at PSU, the Portland region provides a wide range of resources available to assist in the technology transfer process. These resources include a wealth of companies such as those in the "high tech" arena that are interested in the commercialization process. Beyond that, there are several entities that can provide specific technology transfer related services such as the assessment of the commercial

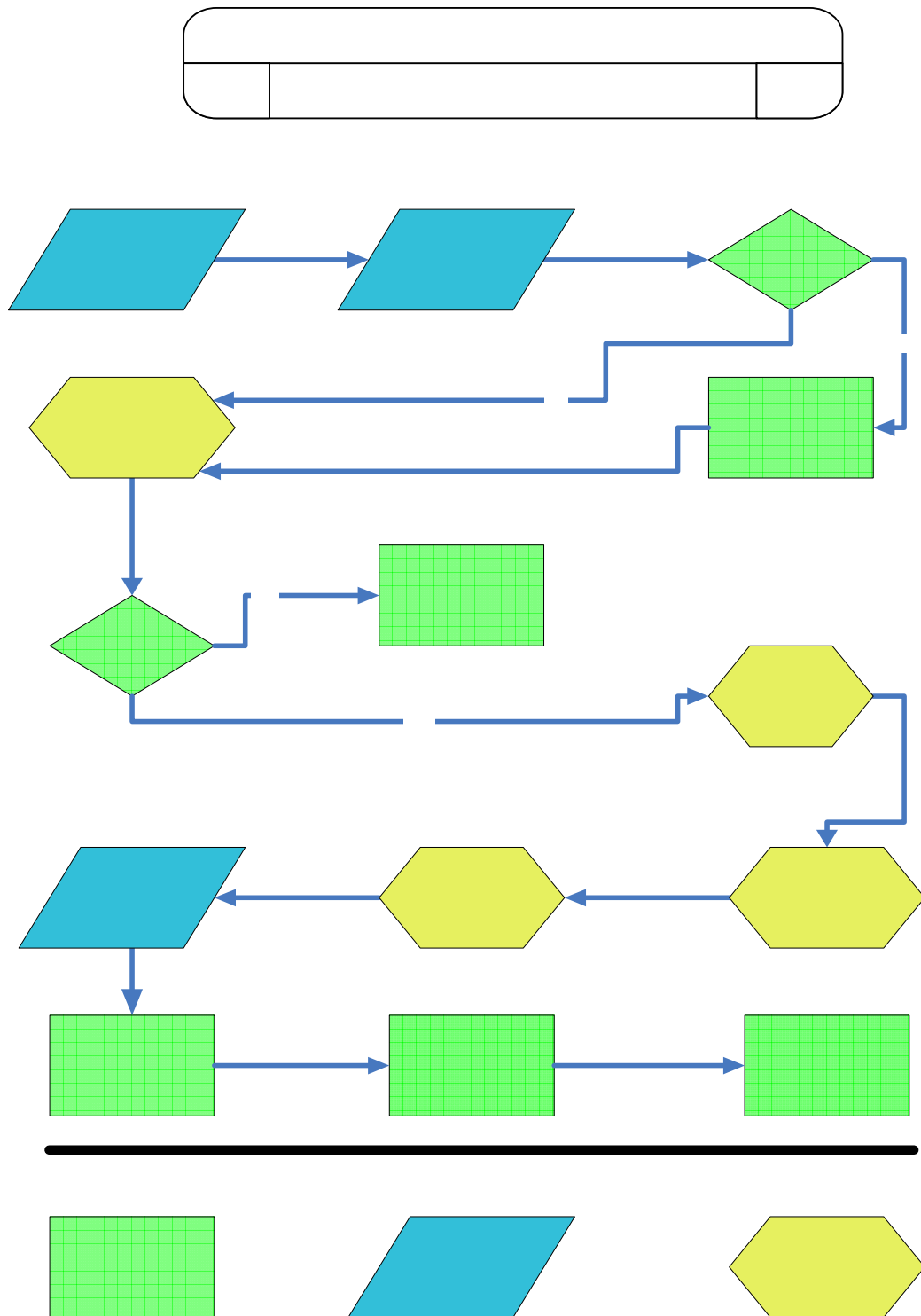
viability of inventions (see Appendix G) and very specific legal services such as patent and copyright representation. Recent developments in the economic development arena, such as the activity of the Oregon Department of Economic and Community Development to facilitate the development of industry clusters, and the formation of the Oregon InC – the Statewide Innovation Council, also accentuate the importance of technology transfer functions for PSU.

2) The Typical Technology Transfer Process

While the formal technology transfer process begins with the invention disclosure, the real process begins long before that, in the interactions between faculty researchers and the technology transfer staff, as well as other knowledgeable persons within the institution. This process is one of legitimizing the technology transfer process as an important part of faculty scholarship, as well as a process of increasing awareness on the part of faculty about the commercial potential of their research activity. This informal education and search process requires that the staff involved with commercialization be accessible to researchers, that they actively seek out researchers with potentially viable ideas, and that commercialization as an activity be regarded by the University administration and faculty peers as a meaningful outlet for research results. That level of staff involvement, as well as the need for the University to be accountable for the results of the technology transfer process to a variety of external and internal constituencies, means that University personnel must be involved in several key aspects of the process. At other points, the University may best be served by seeking outside assistance in assessing the commercial potential or developing a marketing plan for particular technologies. In the following Figure I, the typical flow of technology transfer is presented with stages color coded to represent the decision making involvement of three general groups: The commercialization office (representing the University), the faculty researcher, and external service providers. Particularly in an environment as rich in resources as the Portland community, significant amounts of the technology transfer

process may reasonably be performed by external firms, but the ultimate responsibility for decisions made and actions taken must remain with the University.

Figure I

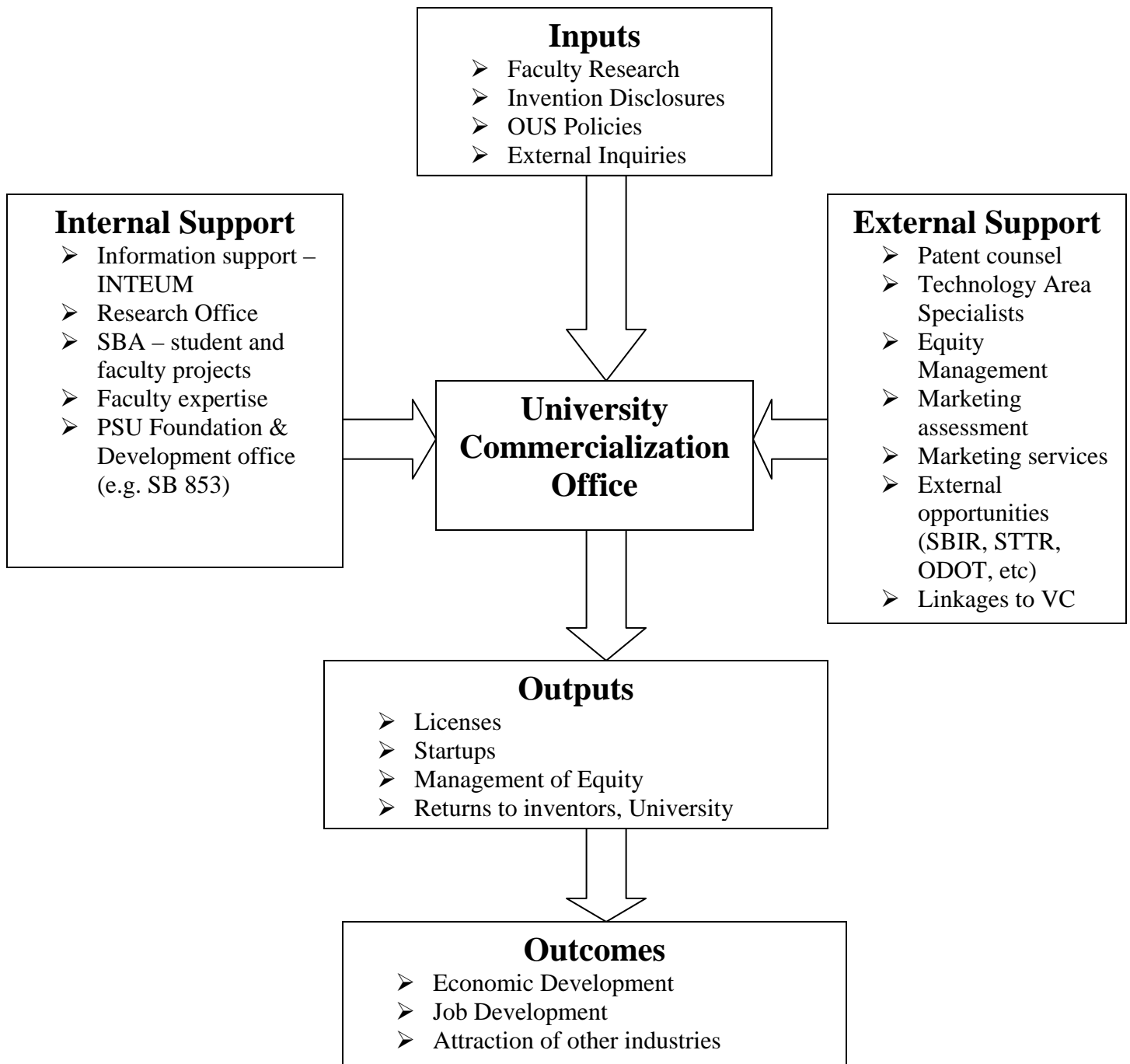


Faculty
information

Another way of depicting this process is not as a flow of a specific 'deal', but to look at the inter-relationship of the elements of the tech transfer process, including those resources that are both internal to and external to PSU, as well as to indicate the intended outputs and outcomes from the system. That set of relationships is provided in the following Figure II, indicating that the University Commercialization Office is essentially the coordinating element for a host of resources and activities.

Figure II

Commercialization Process – Relationship of Elements



- 3) **Recommendations – What is needed for Implementation?** In order to put into place the kinds of technology transfer activities envisioned in the preceding pages, a number of enhancements need to be in place over the next several months. These should begin immediately, with many of the changes in place prior to the 2006-2007 academic year.
- a) A coherent model of the technology transfer process needs to be developed and communicated to faculty, staff, sponsors and others. This model, similar to the flow diagram pictured above, should communicate to all concerned the stages that are to be expected, the decisions that need to be made, and the approximate time frame involved. Beyond that, descriptions of the resources involved and the decision criteria to be met need to be created. Such information can assist a faculty member to realistically assess the actions the University will take, and not lead them to assume for example, that their invention will be patented on a world-wide basis. This information should be available on the University web site to assist both faculty and outside parties.
 - b) Policies need to be created, promulgated and communicated with respect to some of the essential elements of the technology transfer process, for example related to the obligation of faculty to assign invention to the University, to declare any financial conflicts of interest, and to share in the decision making process related to choosing a license process to an existing firm as opposed to developing a start-up company. A full set of policies related to technology transfer, including sample terms of agreements, should be available on the University website.
 - c) As noted above, faculty, external parties and potential licensees need to receive a realistic assessment of the time necessary for processing their technology. The University then needs to communicate the status of that technology to interested parties. Timely response to current activity is a necessity for developing and maintaining faculty credibility in the system. Faculty should be able to obtain status reports on their technology through a secure website.
 - d) Because the technology transfer process may start either with federally supported or privately supported research, the terms of that research support are critical. While federal terms are primarily set by the Bayh-Dole legislation, private

support is much more variable and terms of sponsorship need to be examined in each project. As a result, the University Commercialization Office (UCO) and the Office of Research and Sponsored Projects need to carefully coordinate on the terms of all private research support. Both offices should continue to report to the Vice Provost for Research.

- e) The UCO should be aware of current and future legislative, economic and political opportunities and constraints. University policies must be developed and adapt to address both the current realities and constraints, but also those which emerge. This means that as the State changes regulations and limitations the University must adapt. For example, Ballot Measure 10, which permits Universities to hold equity as part of the consideration in exchange for license of University IP, creates new opportunities for startup companies to utilize University generated IP.
- f) Staffing must be increased. The current level of staffing (.5 FTE), while an improvement over past years, is inadequate to the needs of the current situation, let alone future projections. Current reports from the Association of University Technology Managers (AUTM) show a ratio of 1 FTE staff person for every 10 invention disclosures. In the last year PSU received 14 invention disclosures. On that basis, PSU should currently have 1.5 FTE devoted to the commercialization function, exclusive of administrative support. However, 1.5 FTE would not be sufficient for the office because there are other areas that need development. These include education of faculty, the development of potential invention disclosures, development of relationships with local industry, etc. We suggest that the University maintain the services of a full-time commercialization officer (draft position description attached as Appendix C.). In addition, since many of the current issues involve the handling of patent matters, the tracking of patent applications, and the relationship of licensing to the terms of research sponsorship agreements, we recommend that the University add a person on at least a half-time basis specifically to deal with these legal and contractual issues (for draft position description see Appendix D). We also recommend that the University retain a half-time individual to assist faculty in the development of potential

invention disclosures (for draft position description see Appendix E). Finally, we recommend that the University provide support staffing for these activities of at least .50 FTE (for draft position description see Appendix F). Thus our recommendation is for a total of 2.5 FTE devoted to commercialization in FY 2006-07. Additional limited information system and general office support may be provided by the Office of Research and Sponsored Projects.

- g)** Plan for growth. The chart below shows the expected growth in research dollars, which are anticipated to drive additional invention disclosures, patent filings, licensing arrangements and startup enterprises. Each of those activities will require staff support, as well as resources for external services. A projected three year plan for growth in the technology transfer / commercialization functions is included in Appendix B. As noted above, the objective in this staffing plan is to maintain University integration and control but optimize use of external resources. In other words, the objective is to take advantage of the resources in the region to move for integrated processes rather than attempt to create a full set of self-contained technology transfer services.

Table I

Commercialization Activity (Projected)*
Portland State University

Fiscal Year	Total Research Expenditures	Invention Disclosures	Patents Filed	Cost Per Patent**	Estimated Patent Costs	Staffing (Total FTE)
2006 (7/05-6/06)	\$39,000,000	14	7	\$18,000	\$126,000	0.8
2007 (7/06-6/07)	\$43,000,000	21	10	\$18,500	\$185,000	2.0
2008 (7/07-6/08)	\$46,800,000	23	12	\$19,000	\$228,000	2.5
2009 (7/08-6/09)	\$51,000,000	25	13	\$19,500	\$253,500	3.0

* Prepared for the use of the Technology Transfer Taskforce

** Only United States Patent Costs (average cost filing through issuance does not include maintenance costs or potential litigation expenses) Note that total worldwide patent coverage could cost in excess of \$250,000 per invention.

Appendix A

OREGON UNIVERSITY SYSTEM

Administrative Rules

DIVISION 43

POLICIES RELATING TO INVENTIONS, LICENSE AGREEMENTS, EDUCATIONAL AND PROFESSIONAL MATERIALS DEVELOPMENT, PATENTS, AND COPYRIGHTS

580-043-0006 Policy

The educational and research activities of employees of the Board of Higher Education and its institutions frequently result in the discovery of new knowledge in the form of inventions, technological improvements, and the production of educational and professional materials. It shall be the general policy of the Board that such results be made available to the public in the most expeditious manner.

Stat. Auth.: [ORS 351](#)

Stats. Implemented:

Hist.: HEB 8-1978, f. & ef. 12-5-78

580-043-0007 Objectives of Policies

It is Board intent to:

- (1) Provide systematic means of bringing inventions, technological improvements and educational and professional materials into the public domain.
- (2) Encourage the development of new knowledge while protecting traditional academic freedom of employees in the publication of materials, development of inventions and discovery of technological improvements.
- (3) Establish principles and procedures for equitably sharing net royalty income with employees, and with sponsoring agencies when required by an agreement.

Stat. Auth.: [ORS 351](#)

Stats. Implemented: [ORS 351.070](#)

Hist.: HEB 8-1978, f. & ef. 12-5-78; HEB 5-1996, f. & cert. ef. 12-18-96

580-043-0011 Employee Responsibilities and Rights

(1) As a condition of employment, all Board and institution employees shall agree to assign to the Board rights to:

(a) Any invention or improvement in technology conceived or developed using institutional facilities, personnel, information or other resources; and

(b) Educational and professional materials, whether or not registered for copyright, that result from the instructional, research or public service activities of the institutions.

(2) Employees shall be responsible for disclosing to designated institutional representatives all inventions, technological improvements and educational and professional materials conceived, developed and/or produced during the conduct of normal activities.

(3) Employees shall be responsible for cooperating and assisting Board and institutional representatives responsible for patenting, licensing, registering for copyright, publishing and generally assisting public access to new knowledge resulting from employee activities.

(4) Employees shall be eligible to share in net royalty income from each invention or separate improvement thereof, an amount not to exceed:

(a) 40 percent of the first \$50,000, 35 percent of the next \$50,000, and 30 percent of all additional net royalty income received by the Board for inventions and technological improvements; and

(b) 50 percent of net royalty income from educational and professional materials.

(5) For the limited purposes of administering the policies under Division 43, persons acting in the following capacities shall be entitled to the benefits and subject to the responsibilities of said rules: graduate teaching assistants, graduate teaching fellows, graduate research assistants and student employees.

Stat. Auth.: [ORS 351.070](#)

Stats. Implemented: [ORS 351.070](#)

Hist.: HEB 8-1978, f. & ef. 12-5-78; HEB 9-1980, f. & ef. 8-20-80; HEB 1-1982, f. & ef. 4-20-82; HEB 1-1993, f. & cert. ef. 2-5-93; HEB 5-1996, f. & cert. ef. 12-18-96

580-043-0016 Institutional Responsibilities

To manage inventions, technological improvements and educational and professional materials developed by employees, institutions shall:

(1) Apply Board-adopted policies and procedures.

(2) Encourage employee activities that lead to new knowledge.

- (3) Actively seek applications for new knowledge developed by employees.
- (4) Anticipate and comply with conditions in contracts, grants and agreements with sponsoring agencies.
- (5) Recommend to the Vice Chancellor for Finance and Administration or designee contractual agreements, patent applications and equitable sharing of net royalty income.

Stat. Auth.: [ORS 351.070](#)

Stats. Implemented: [ORS 351.070](#)

Hist.: HEB 8-1978, f. & ef. 12-5-78; HEB 1-1986, f. & ef. 1-17-86; HEB 10-1990, f. & cert. ef. 7-26-90; HEB 1-1993, f. & cert. ef. 2-5-93; HEB 5-1996, f. & cert. ef. 12-18-96

580-043-0026 Office of Finance and Administration Responsibilities

The Office of Finance and Administration shall:

- (1) Assist institutions in the development of procedures implementing Board policies and managing new knowledge.
- (2) Monitor institutional application of Board policies.
- (3) Review and approve institutional recommendations regarding assignment of rights, applications for patents, execution of licenses and agreements and distribution of royalties.

Stat. Auth.: [ORS 351.070](#)

Stats. Implemented: [ORS 351.070](#)

Hist.: HEB 8-1978, f. & ef. 12-5-78; HEB 1-1993, f. & cert. ef. 2-5-93; HEB 5-1996, f. & cert. ef. 12-18-96

Appendix B

Commercialization Office Portland State University 3-Year Plan FY 2006-2008

Fiscal Year 2006 (7/05-6/06)

1. Utilize existing personnel
2. Draft job description for Commercialization Director after determining funding model and form hiring committee (mix between PSU-affiliated members and external members—preferably from leading high-tech companies and service providers)
3. Implement database to track and report intellectual property information (database has been purchased; will be deployed in 2006)
4. Create and establish program to assist in funding commercialization (SB 853)
5. Review intellectual property policies and related state statutes
6. Identify and utilize existing commercialization programs at PSU
 - Research office activities
 - Center for Emerging Technology activities (*e.g.*, Milt Smith Fund and ONAMI initiatives)
 - School of Business programs like the MBA+ business projects
 - Lab2Market
 - Portland Business Accelerator
 - Picmet and other programs in the Maseeh College of Engineering and Computer Science
 - Innotech
 - Microproducts Breakthrough Conference (PNNL)
 - etc.
7. Begin coordinated program to educate faculty about intellectual property issues and commercialization opportunities (work with Lab2Market on this)
8. Work with business leaders and other universities to streamline and improve the intellectual property identification and commercialization process

Fiscal Year 2007 (7/06-6/07)

1. Hire Commercialization Director.
2. Hire Commercialization Assistant for Patenting and Licensing.
3. Hire Commercialization/Technology Transfer Support Staff member.
4. Utilize database to keep inventors and others up-to-date concerning patenting and commercialization activities
5. Establish benchmarks for technology transfer and commercialization activities
6. Create an intellectual property recognition process
7. Develop programs to involve students in the patenting and commercialization process especially business and law students (cooperate with Lewis & Clark)

8. Create group of qualified subject-matter experts to review research and help identify commercial opportunities (both industry and university)
9. Develop a web site that contains links to resources that can assist start-ups (see website developed by Steve Morris, as well as PNNL, for these sorts of resources)
 - Venture capital
 - SBIR/STTR sites
 - Individuals with small business or marketing expertise

Fiscal Year 2008 (7/07-6/08)

1. Develop marketing tools to create greater exposure to research and commercialization opportunities
2. Hire Associate Commercialization Director following input from the Director
3. Research office to begin hosting a series of university industry workshops and seminars with emphasis on areas of PSU strengths and economic development
4. Review progress and prepare new 3-year plan in light of pipeline and goals for long-term structure of PSU's commercialization capability

Appendix C

PSU Commercialization Director

Responsibilities - Main contact for faculty concerning intellectual property issues involving patenting, copyrighting, trademarks marketing. Coordinate with legal counsel and faculty concerning intellectual property issues. Work closely with PSU contract office concerning intellectual property issues in research contracts. Initiate review and approve material exchange and confidentiality agreements. Interact with private and government organizations concerning intellectual property issues.

- **Licensing** - Work with faculty to identify potentially marketable technology and companies that might be able to develop and commercialize the technology. Evaluate invention disclosures to determine whether or not the university should market technology or waive the technology to inventors. Coordinate patent applications with outside legal counsel. Actively solicit companies to develop and commercialize technologies. Prepare, negotiate and maintain license agreements with industry.
- **Policy Issues** - Interact with faculty administration, other institutions, companies, and governmental organizations concerning policies involving intellectual property. Review policies and work with appropriate organizations to either enforce or modify intellectual property policies.
- **Education** - Prepare and provide educational materials concerning intellectual property. Meet with faculty individually or in groups to discuss intellectual property issues. Interact with faculty to provide undergraduate and graduate students with information pertaining to patents, copyright, trademarks and trade secrets. Meet with companies, associates, cooperatives, state agencies, etc., to create greater awareness of PSU research and ways to access and commercialize the research.
- **Industry Networking** - Coordinate with associations to develop ways to increase communication between PSU and the private sector. Facilitate interaction between researchers and companies. Attend trade shows and association meeting when possible. Communicate one on one with individual companies when possible.
- **Management** - Hire and supervise Technology Transfer employees. Identify and encourage developmental opportunities for employees. Review and evaluate employee performance. Work with employees to establish goals and objectives for office and employees. Prepare and manage budgets.

Qualifications - Individual must be capable of providing strong leadership to University efforts to build university-company R&D partnerships and facilitate spin-off companies based around university technology. Six to eight years experience in licensing and technology marketing is desirable, as is familiarity with university research and best practices in commercialization of technology. Other qualifications include:

- Familiarity with basic contract laws, intellectual property laws (patents, copyright, trademark) and procedures; knowledgeable in matters related to the prosecution of inventions for patent application, as well as the preparation of license agreements.
- Proven ability to interact with industry, promote technology transfer and negotiate agreements for the commercialization of technology.
- Outstanding oral and written communication skills.
- Proven leadership and supervisory skills, integrity, vision and a working understanding of the political, financial and market issues involving university based technology transfer.
- Experience in developing and administering policies and procedures, as well as preparing and managing budgets, and assuring compliance with state and federal law.
- A demonstrated commitment to promoting and enhancing diversity.

Appendix D

Commercialization Assistant for Faculty Support

Responsibilities – The purpose of this position is to assist with the education of faculty concerning intellectual property issues and assist faculty in identifying potential research opportunities and negotiating research agreements with the private sector. This involves:

- meeting with faculty individually and in groups,
- organizing university private sector workshops
- coordinating educational sessions concerning patenting with faculty both individually and in groups
- reviewing intellectual property policies and assisting with updating and dissemination of the policies

Qualifications:

Experience in negotiating research agreements preferably with an academic institution.

Qualifications and preferred skills include:

- Familiarity with basic contract laws, intellectual property laws (patents, copyright, trademark) and procedures.
- Proven ability to interact with industry, promote technology transfer and negotiate agreements for research and the commercialization of technology.
- Outstanding oral and written communication skills.
- Working understanding of the political, financial and market issues involving university based research and technology transfer.
- Experience in developing and administering policies and procedures, as well as preparing and managing budgets, and assuring compliance with state and federal law.

Appendix E

Commercialization Assistant for Patenting and Licensing

Responsibilities – The purpose of this position is to assist with the commercialization of intellectual property. This involves:

- reviewing invention disclosures for patentability
- determining potential avenues for commercialization (licensing to existing organizations or start-ups)
- identifying markets and potential licensees
- negotiating license agreements

Qualifications:

Experience in negotiating research agreements preferably with an academic institution.

Qualifications and preferred skills include:

- Familiarity with basic contract laws, intellectual property laws (patents, copyright, trademark) and procedures.
- Proven ability to interact with industry, promote technology transfer and negotiate agreements for research and the commercialization of technology.
- Outstanding oral and written communication skills.
- Working understanding of the political, financial and market issues involving university based research and technology transfer.
- Experience in developing and administering policies and procedures, as well as preparing and managing budgets, and assuring compliance with state and federal law.

Appendix F

Commercialization/Technology Transfer Support Staff

Responsibilities - The purpose of this position is to provide program support to the Office of Technology Transfer. This involves interpreting, maintaining, and using an extensive docketing system of invention disclosures, patent applications, licensing agreements, and other information relating to University intellectual property management. Internal (university) and external (corporate) interactions are frequent and require a general knowledge of the overall program goals and support functions. Coordination of efforts to comply with federal invention reporting requirements and execution of legal contracts is required.

Qualifications -

- Experience in database and web page management
- Familiarity with general office software applications and processes
- Excellent written and oral communication skills
- Excellent priority setting and time management skills

Appendix G

Examples of outside organizations that can be utilized at selected stages in the technology transfer process*

- ***Global Technology Transfer Group Inc (www.gttgrp.com)***

They expressed interest in working with PSU on several levels. Looking at PSU research in selected areas and evaluating the research concerning intellectual property protection strategies. They might be interested in protecting and commercializing technologies of interest at their expense. PSU would assign them the rights and they would share income from commercialization with PSU. They also stated that they might be interested in evaluating inventions patentability and marketability for PSU on a fee for services basis.

- ***There is a New and Unique Technology Licensing Service***

This new team offers the benefit of more than 60 years experience in technology transfer operations including protection; licensing; and commercialization of research results; interactions with faculty inventors; and advisement on policy matters. We are well positioned to offer services such as:

1. Establish intellectual property policies or revisions of existing policies
2. Create new technology transfer programs as needed
3. Deliver faculty presentations raising awareness of the benefits of patenting & licensing
4. Promote invention disclosure activity by faculty
5. Oversee appropriate protection of intellectual assets
6. Market technologies to find viable licensees
7. Negotiate license agreements
8. Administrate existing license agreements
9. Assist with startup companies
10. Provide entrée to investors
11. Interface with university-based Incubators
12. Assist grant & contract staff in negotiating research contracts with private com

- ***Foresight Science & Technology, Inc.***

“We move technology into applications. We find deals for people whose technology is looking for problems to solve and we find technologies for people who have problems that need a solution. We do the leg work needed to understand and quantify end-user needs, technology performance, competition, market opportunities and barriers, and more. Then we get on the phone and clarify what the other party wants from a deal. If you want, we'll do the deal too.”

- ***Sannes & Associates***

Sannes & Associates, Inc. provides technology/market assessments in the biomedical field. We provide market information and strategic planning services such as:

- * Commercial potential for a new technology/product? Potential applications? Size of the current market? Trends?
- * Unmet or perceived needs of the market? Will this technology/product meet these needs?
- * Product design issues.
- * Competitive analysis (current and emerging competition).
- * Prioritizing potential indications – based on market potential, needs, product development issues, etc.
- * Analysis and due diligence of potential partners; development of licensing strategy.
- * Identification of companies or researchers with technology/product available for licensing.
- * Other market information.

Our clients include companies developing biomedical products (therapeutics, diagnostics and devices) and companies developing research products or services, investors, and technology transfer organizations.

- ***Frost & Sullivan***

Frost & Sullivan's Technology Research contains:

Latest developments and emerging technologies by companies, universities, and government laboratories (primary research)
 Market forecasts and growth opportunities
 Opportunities for licensing or collaboration (full contact information provided)
 Time frame for technology commercialization
 Analysis of new applications and markets
 Disruptive technologies
 Competitive intelligence

**These are samples only, not to infer recommendation or exclusion of other organizations*