

SYRACUSE UNIVERSITY COLLEGE OF LAW
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&
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***University – Industry Sponsored Research Contract
Term Analysis***

University of Rochester Center for Electronic Imaging Systems
Eastman Kodak Company
Rochester Institute of Technology

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Research Associates

Matthew French
Marissa Golden
Andrew Snook
Melissa Vierling

Senior Research Associates

Sharon Lai
Seth Libby

Director

Professor Theodore Hagelin

Associate Directors

Professor Richard Newman
Professor Mark Weldon
Professor Jeong Han Oh

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Executive Summary

Private sponsorship of academic research is a fundamental aspect of technical research and development in this nation. Utilizing private financing, academic researchers drive basic and specialized research, contributing to both a growing base of knowledge relevant to societal interests, from agriculture to healthcare to consumer electronics, and commercial development and applications of discoveries. While private funding is essential in order for academic research to continue at its present pace, commercial motivation often runs contrary to underlying academic principles that require broad dissemination of knowledge for the public good and furtherance of educational missions. In order to encourage private investment in academic research, a balance of competing interests must be achieved through the negotiation and contracting of research collaborations. In this process, several contentious issues bearing on the balance of university and sponsor interests arise. This report explores industry sponsored academic research agreements in order to identify practices that facilitate contract negotiation of typically contentious issues.

To establish a basis for industry approaches to contentious issues in structuring sponsored research agreements, surveys were sent electronically to a targeted list of roughly 150 different sized companies ranging across a variety of industry sectors. In the subsequent weeks, the research team engaged in various follow-up efforts through telephone as well as e-mail in order to obtain as many responses as possible. As a result of these efforts, a total of thirteen completed surveys were obtained from the targeted companies. The survey gathering efforts began in February 2006 and ended on April 2006. We found that the overwhelming majority of industries contacted were unresponsive to the survey. This was likely due to a variety of reasons that include the following: 1) company was not involved with sponsored research; 2) company legal department denied permission for executives to answer questions; 3) company was not interested in future sponsored research due to prior bad experiences with sponsored research; and 4) foreign universities were more receptive to industry sponsored research needs. While the names of the responding companies will be kept in strict confidence, a list of all the companies contacted is provided in Appendix B.

While the collected information below represents industries' standard approaches to typically contentious contracting issues, terms concerning ownership of discoveries, confidentiality, warranties and limitation of liability, and indemnification are likely to be

negotiated ad-hoc. As a result, the overall industry representations may not be representative of final agreements. They do however provide insight to contracting positions. The licensing provisions made at the time a sponsored research agreement is executed establish future rights to negotiate licenses, but do not themselves create licenses to technology developed under a research agreement.

To encourage university-industry collaboration, sponsored research agreements should be drafted to acknowledge each party's interests. A company may gain a competitive advantage in drawing sponsor interest by establishing practices that are generally accommodating to university and industry interests, result in quick negotiation, and facilitate the expeditious production of quality results. Contracts must yield to statutory requirements and practical considerations alike. Companies may facilitate collaboration by utilizing language that is reasonable, clear, and broadly accessible to university and sponsor counsel, executives, administrators and investigators. Companies might obtain acquiescence to a term that reads otherwise unfavorable to a university by requiring the university to affirmatively acknowledge the underlying rationale of the term. Furthermore, terms may be drafted so that a university affirmatively acknowledges exactly what it is relinquishing. These practices put forth language that may be less objectionable to a university and concurrently encourage the university to be reasonable in its demands. Furthermore, structuring a term to require an affirmative acknowledgement combined with the rationale for the term puts a university on notice. This serves an evidentiary purpose, confirming intent to be bound which is a significant factor in contract interpretation, whereas general contract language may be overbroad and ambiguous. Accessible, equitable and mutually beneficial contracting should ultimately increase negotiating efficiency and encourage collaboration. The discussion below applies these considerations to the issues in sponsored research agreements that give rise to most negotiating difficulty. The implications of common and alternative approaches are explored.

This project focuses on sponsored research agreements and the common contentious clauses in those agreements. Though general licensing provisions at the sponsored research stage are discussed, detailed licensing schemes are generally not components of sponsored research agreements.

Industry and universities should be cognizant of federal legislation that impacts sponsored research agreements and dictates the structure of certain contractual provisions. Licensing provisions of federally funded technology are subject to the Bayh-Dole Act; and the

IRS Revenue Procedure 97-14. These laws effect the use of research facilities built with funding from tax exempt bonds. These laws are explained in sections 5.1 and 5.2 respectively. In general, these laws affect how a university may enter into license agreements at the time that sponsored research agreements are negotiated. Accordingly, licenses to technology developed under a sponsored research agreement are established after technologies are developed to the extent that they can be assessed for fair market value. To equitably accommodate sponsor interests in light of legislative requirements, universities typically grant companies the first right to negotiate a license for fair market value and otherwise favorable terms.

The Bayh-Dole Act, the IRS Revenue Procedure 97-14, and the CREATE Act all require construction that results in university retention of intellectual property rights. In drafting contract terms that invoke this regulation, universities are advised to explain the restrictions and offer appropriate balancing concessions, including the first right to negotiate a license.

Achieving equitable and mutually beneficial contract terms and establishing productive university-industry collaborations requires each party to understand the rationale and limitations of the other. As a means to this end, the significant findings of this report can be found in Appendix A, which is intended as an overview of contentious sponsored research terms for academic and industry administrators, executives and investigators. A list of all companies contacted for the University-Industry Sponsor Research survey is included in Appendix B. The survey which was administered is included in Appendix C.

1 Introduction

This report analyzes surveys completed by companies in order to identify practices that facilitate contract negotiation with respect to typically contentious issues. The survey provided a means to achieve an understanding of accepted contracting practices and policies of industry participants. The implications of specific sponsored research contract terms and practices on the balance of academic and industry interests is investigated to discover reasonable, equitable, and mutually beneficial negotiating and contracting practices that ultimately encourage private research funding and university-industry collaboration. Industry representations are compared and contrasted, and reasonable concessions are identified. Furthermore, the implications of various approaches on contracting and collaborating are explored. Finally, approaches to contentious issues are offered as a means to increase contracting efficiency, reduce transaction costs, encourage academic-industry collaboration, and assist companies in obtaining university support.

2 Purpose of the Report

This research report provides both academic institutions and private industry with information relevant to the efficient negotiation of reasonable and mutually beneficial sponsored research agreement terms. The ultimate intent is to aid in reducing the amount of time spent in negotiation which delays and possibly precludes research collaborations between academic institutions and private industry, which as a result, delays the dissemination of knowledge and commercialization of significant research. As a result, this project aims to help expedite the progress of new technologies from conception and development through commercialization.

2.1 Research Focus

This research project analyzes sponsored research agreement practices provided through surveys received from industries for common practices relating to contentious contractual issues: equipment ownership, contract termination, confidentiality, ownership of discoveries, warranties and limitation of liability, publication, indemnification, licensing provisions, and university overhead. In addition, this research project indicates the degree to which the identified contentious issues are governed by law, and suggests industry interest with university interest.

2.2 Specific Objectives

The specific objectives of this research report are to:

- (1) Identify and compare various industry approaches to contentious issues in negotiating sponsored research agreements.
- (2) Provide academic administrators and researchers and private industry sponsors informative materials that convey the importance, requirements, and implications of various contractual approaches to contentious issues that are employed in sponsored research.
- (3) Present contractual language as a basis for efficiently negotiating mutually beneficial sponsored research agreements between academic institutions and private sponsors.

3 Analysis of Industry Survey Results: Participation, Collaboration, and Negotiation

The following section provides information from industry survey respondents and analyzes each response in order to form a comprehensive view on industry attitudes toward sponsored research and negotiation practices. Respondents explain some of the positives and negatives of the sponsored research process and also describe the role of negotiations and their potential effect on the outcome of sponsored research.

3.1 Sponsored Research Agreements and Company Involvement

In order to establish a solid comprehension of industry participation in sponsored research, it is essential to determine the reasons why companies choose to either take part in the process or avoid it all together. Companies that responded to the survey offered insight as to why they did or did not participate in sponsored research.

Most respondents emphasized that they engaged in some sort of sponsored research. Of these companies, different responses were given as to why sponsored research is important. Survey responses carried similar themes in regard to why companies choose to participate in sponsored research: 1) expertise through access to faculty; 2) access to grant money; 3) outsider insight; 4) interpersonal relationships; and 5) location. This section will discuss these five themes in order to provide insight into industry perspective on sponsored research.

1) Expertise through Access to Faculty

Sponsored research provides access to technical expertise or know-how to companies easily and cheaply. In most cases, it is clear that a company will seek to work with a university that has some expertise in the general field of the product that is being developed. This specialized knowledge will hopefully lead to a better overall research project for the company, and possibly result in better information and higher profits. Professors, researchers, and students often have access to a vast array of information and manpower that companies are not capable of easily obtaining. Through the use of this expert knowledge base, companies are more likely to discover novel approaches to problems. Some respondents mentioned that certain universities have researchers with expertise in a technology that would likely benefit and be incorporated into a product that the company was working on.

Universities and their researchers enhance company capabilities by providing access to equipment, methods, and facilities. Companies often use universities when specialized expertise

is needed, especially when the needed expertise lies outside of the core focus of the company. As a general example, biotechnology companies tend to be extremely knowledgeable when it comes to their own field, yet when their research requires information that is beyond the field of biotechnology it would be greatly advantageous, in regard to time and efficacy, to use an outside resource that is on the leading edge of its field of study.

Specific skill sets and prior technical achievements with related projects are topics that influence companies to participate in sponsored research with universities. Companies can look to a body of achievement in research and development and determine whether university sponsored research will be beneficial in their situation.

2) Access to Grant Money

Respondents relayed that often they experience internal resource constraints, limiting the possibility of doing all research and invention within the confines of the company walls. Because of the lack of resources some companies experience, they are forced to look to outside sources such as sponsored research. Sponsored research allows companies in many cases to access grant money that has been made available through university sponsored research programs. Grant money can help to speed the negotiation process as companies and universities decide how research and development will be performed. Universities can provide incentive to companies to participate in sponsored research not only by advertising their access to grant money, but by offering low transaction fees and using state matching funds programs.

3) Outsider Insight

Respondents spoke of the desire to use sponsored research as a way to receive new ideas outside of the company setting. A company “outsider” with expertise may provide new insight on innovation and technology that was previously overlooked. Outside observers may also provide an unbiased opinion on the research, possibly pointing out flaws in the methodologies and practices.

4) Interpersonal Relationships

Some respondents mentioned that previous relationships with universities played key roles in determining whether the company would participate in sponsored research. They emphasized that interpersonal relationships between employees, clients, professors, and researchers clearly play a part in determining whether a sponsored research agreement would take place. When both sides already have proven to be, at the very least, cordial with one another, terms and agreements can be more easily negotiated. One respondent pointed out that it

was involved in sponsored research because of its favorable intellectual property ownership agreement with a participating university. Another respondent reported to have worked with a university solely because of a positive relationship with a professor. Growing relationships between companies and universities could ultimately create a network to world science and technology leaders. Universities and companies alike can encourage their employees to establish relationships in the industry community by, among other things, instituting monthly newsletters relating to the specified field, creating an informative website, and/or organizing seminars and conferences where numerous experts can mingle and share ideas. With each new contact and relationship formed between universities and companies, a new future possible sponsored research partner emerges.

5) Location

Large companies often deal with many universities in terms of sponsored research. Of the responding companies, one claims to have been involved with up to one hundred universities (twenty being foreign) for sponsored research projects, while others claim to have only worked with one university. It is useful to understand why certain universities are chosen and others are not. Numerous respondents provided reasons as to why they chose to work with specific universities for sponsored research projects. One factor for choosing a specific university is location. When a company is located in the same general region as the university it works with, meetings, presentations, dispute resolution, and other day-to-day business activities are more readily accomplished. Close proximity to one another also tends to promote strong relationships and collaboration between university researchers and company employees.

Respondents listed universities that they prefer to work with. The following list gives examples of a small number of these mentioned universities and describes briefly why they were chosen as partners.

- Syracuse University - had relevant technical experience for business needs; location
- RIT/UR – technical expertise and location
- University of Florida – machine design expertise; location; alumni contacts; network
- Creighton University – relationship with company through researcher
- University of Minnesota – program at university tailored to company needs
- University of N. Dakota – access to grant money; looking to start useful program to company

- St. Thomas University – location; has professor who is an expert on mitigating problems in the research process

While the majority of the respondents emphasized participation in the sponsored research process, some companies explained why they did not currently participate in sponsored research. Respondents reported three general reasons for not being involved with sponsored research: 1) no need for sponsored research; 2) debate over intellectual property; and 3) “university bureaucracy.”

1) No Need for Sponsored Research

Some respondents simply do not deal with clients that necessitate university level research. These companies may be focused on a specific part of an industry and can provide all the necessary research and development using in-house methods. Their product and clients do not require huge amounts of capital and manpower to maintain a business relationship. Some companies have such specified products or do such limited research that sponsored research will not enhance their productivity.

2) Debate Over Intellectual Property

Of the respondents who did not engage in sponsored research, the most prevalent problem seemed to be the debate over intellectual property rights. In some cases, universities insist on maintaining rights to the work product when the project was fully funded by the company. Companies, on the other hand, seek to maintain as many of the intellectual property rights of the work product as possible. The negotiation process between companies and universities can hinge on who will maintain the intellectual property rights for the eventual patents. Issues often arise when determining who holds patent rights, such as the high cost of patent maintenance fees, but both parties generally hope to keep the rights as their own. This topic is discussed more thoroughly in section four.

3) “University Bureaucracy”

The problem with intellectual property is a small part of the larger problem that some respondents recognized as “university bureaucracy,” a term likely referring to the hierarchical structure of university employees and the numerous regulations that must be adhered to in order to follow policy. According to respondents, this bureaucracy can effectively make a project stagnant. Some companies intimated that the “university bureaucracy” made the whole sponsored research process unbearable, leading them to turn down the option of participation. For example, the “university bureaucracy” especially affects pharmaceutical and medical device

companies, as their time-to-market is critical. Universities often do not operate on the same timeline as companies because university employees work different schedules and do not have the same incentives that company employees have to work and produce rapidly.

One responding company noted that even after sponsored research is performed and completed problems continue to arise. The company stated, “the generation of university patents that we may then license is NOT usually a motivation [to enter into an agreement]. Often it is a ‘worst case scenario’ that we must protect against, because of the policies and expectations of U.S. universities.” While companies may be leery of the university bureaucracy and the problems that may arise throughout the process of sponsored research, for certain responding companies sponsored research continues to be a viable option. Yet, this option must present itself at the right time with the right terms. Many companies wait for the prime opportunity to engage in some form of sponsored research

While companies look to location and expertise as major factors in deciding whom to work with for sponsored research, occasions still arise when the ideal partnership never takes place. Some respondents stated that they do tend to focus more on major research universities while others added that they will be moving toward a model of doing more business with a smaller number of “strategic partner” universities, still leaving room for relationships driven by the individual company research scientist. Interestingly, some of the larger companies who responded to the survey mentioned that they would do more sponsored research in China and India over the next decade. This presence is most likely because intellectual property is becoming more important to companies in general. Foreign universities have learned to compete with American universities by allowing companies to maintain a large amount of intellectual property rights. One company noted, “if United States universities do not have a dramatic change of heart, they will see more and more of the US-industry-sponsored projects going overseas to excellent foreign universities that are eager to have our money and our collaboration.”

It is clear that many companies would work with major universities such as Columbia University, Stanford University, and MIT because of the high level of expertise and the success that follows those institutions. Yet those universities can only work on a selected number of projects each year. It is also likely that because of the national prowess of such prominent universities, they may demand more money or more intellectual property rights. Top-ranked universities will always maintain a great deal of bargaining power during negotiations.

Structuring an effective sponsored research project can be a daunting task. Responding companies pointed to a number of issues that would make the process easier for them. In general, companies look to work with universities that have well-known expertise in a certain field of study, relevant to the project at hand. Companies enjoy working with universities where they enjoy friendly contacts. These contacts often stem from universities and companies being located in close proximity to one another. Friendly relationships between sponsored research parties can lead to better contacting agreements, especially in the case of intellectual property, an important subject for companies. Finally, companies hope to maintain lasting relationships and contacts between university and company employees to help to bypass “university bureaucracy,” and foster better deals in the future.

3.2 *Sponsored Research Agreements: Negotiations and Outcome Satisfaction*

Negotiations represent the initial dealings between universities and companies in an effort to successfully create a product through collaborative efforts. Negotiations are critical from a planning and developmental perspective, but they are also very important from a transactional cost perspective. Sponsored research is indeed a business, and everything that takes place in the realm of business requires financial capital either in the form of tangible materials or time. With respect to negotiations, the cost of projects can be greatly affected in the sense that each additional day of negotiations requires time and effort and represents an additional day that the project is delayed moving forward. As a result, the successes and failures of negotiations often directly relate to the quality of the final product and directly impact the degree of satisfaction expressed by the participating company.

In order to gain an understanding of industry’s perception of sponsored research negotiations, companies were surveyed on various aspects of the negotiation process beginning with the level of investment typically offered by universities. Companies were asked to specifically identify the types of investment and contributions generally provided by universities during typical sponsored research negotiations. Responses provided by the surveyed companies were broken down into the following four areas: 1) faculty, 2) students, 3) equipment/facilities, and 4) financial capital. The vast majority of respondents stated that universities generally provided knowledgeable professors and a sufficient amount of graduate student researchers. In addition, the majority of respondents indicated that universities usually provided the

equipment/facilities necessary to facilitate the research as well. However, while it appears common for universities to provide the necessary equipment/facilities, the respondents generally indicated that universities provide equipment/facilities on a case specific basis depending on the subject of the research. The majority of respondents had an increased degree of satisfaction with the negotiation process in instances where universities were providing faculty, students, and equipment/facilities. In rare instances respondents indicated that, in addition to faculty, students, and equipment/facilities, universities were also willing to provide financial funding in furtherance of the project. While the amount of this funding did not exceed \$50,000, it typically provided for increased company satisfaction with regards to the overall negotiation process.

Next, companies were asked to specify the length of their typical sponsored research project negotiations. Results from the respondents were broken down into the following categories: 1-3 weeks, 1-2 months, 3-6 months, and over 6 months. Typically, respondents indicated that the length of sponsored research negotiations with universities fell within the range of 3-6 months. Several respondents reported that typical negotiations lasted from 1-2 months, and this length of contract negotiations directly correlated with greater satisfaction in regards to the negotiation process as a whole. Additionally, while certain respondents indicated that their typical length of negotiations was shorter, falling within the range of several weeks, this did not lead to an increase in company satisfaction with the negotiation process. Rather, the shorter length of negotiations was typically the result of a lack of any type of negotiations where companies were simply offered the university's terms, and this led to a lower degree of overall satisfaction with the negotiation process. In light of all the information provided by respondents, it must be acknowledged that the length of negotiations is often dictated by the nature and complexity of the specific subject of the research. Nevertheless, companies will typically have a higher degree of satisfaction when the amount of time necessary to complete actual negotiations is relatively short.

Finally, companies were asked to rate their overall satisfaction with the negotiation process of typical sponsored research projects with universities on the following scale: not satisfied, somewhat satisfied, satisfied, and very satisfied. The majority of respondents indicated that they were typically 'satisfied' with the negotiation process. However, several respondents indicated they were 'not satisfied' with the negotiation process and their lack of satisfaction could often be attributed to the fact that they were not given an opportunity to negotiate terms with the university, but rather were forced to either accept the university's terms or not enter into

an agreement. On the other end of the scale, respondents that indicated they were ‘very satisfied’ with the negotiation process often attributed their high level of satisfaction to the short length of time necessary to complete negotiations.

Following inquiries into the specifics of the negotiation process, companies were asked to identify their degree of satisfaction with the completed research produced by the project. The companies were asked to rate their level of overall satisfaction with the completed research on the following scale: rarely satisfied (less than 25%), decently satisfied (26%-50%), most often satisfied (51%-75%), and largely satisfied (76%-100%). The respondents typically reported that they were ‘most often satisfied’ with the overall quality of the completed research. In addition to the direct responses by companies of their satisfaction with completed research, company satisfaction with university research is also implied by repeat dealings with university researchers. Of the few respondents that indicated they were only ‘decently satisfied’ with the outcome of the research there were no identifiable commonalities associated with the research to specifically identify any general reason as to why. This lesser degree of satisfaction is likely the result of various elements present in sponsored research, such as deadlines and total cost, and are more individualized based on the specific companies and products. In contrast, when respondents identified that they were ‘largely satisfied’ with the completed research, they indicated that their satisfaction was often linked to the greater expertise of the faculty members involved with the sponsored research.

As a supplement to the responses discussed above, companies were also asked to identify what they learned from dealing with universities during the course of sponsored research projects. Respondents generally identified what they learned by highlighting negative elements they encountered during the course of their experiences with a sponsored research project, offering general suggestions concerning how the process of conducting sponsored research could be improved, or making general comments regarding the overall process involved with sponsored research projects.

Several responses described elements that respondents felt had a negative impact on the quality of the sponsored research process. One response highlighted the lack of strategic planning at the early stages of the project, specifically in regards to the manner in which to move forward with product development. The respondent felt that the best method for conducting successful research was to have a comprehensive development plan established from the outset of the project that addressed scheduling and milestones. However, the drawback to implementing

such plans, as identified by the respondent, is that it would require additional time and collaboration. For small companies this could prove to be difficult due to their more limited resources, and consequently could create fewer possibilities for them to engage in sponsored research with universities.

Another negative aspect of the sponsored research process identified by one of the respondents was the reluctance of certain universities to engage in negotiations. As implied by the respondent, this is typically the result of unbalanced negotiating positions where the university possesses the leverage necessary to force companies to either accept their terms or find alternative means for their research. While this likely serves the position of universities well it does not create a receptive environment for companies contemplating sponsored research with universities, nor does it encourage companies currently involved with sponsored research to pursue future collaborative opportunities with universities.

In terms of improvement recommendations, one respondent suggested ensuring that the company dictates the course of the research to increase the efficiency of sponsored research projects. The respondent indicated that it was much more beneficial to their needs if they were allowed to direct the research in order to prove the viability of their product rather than let university researchers develop the product through their own decision making process.

Another suggestion for improving sponsored research projects offered by a respondent was the possibility of utilizing sub-contractors for specific portions of the research in order to more efficiently meet development milestones. However, the noted drawback recognized by the respondent would be additional upfront costs. Bringing in more workers would likely increase the cost of the research, and the additional time required to establish the necessary production timeline would also contribute to an increased overall cost of the project. However, the respondent noted that such costs may be reasonable if the use of sub-contractors proved more efficient throughout the duration of the project and produced cost savings over time that outweighed the initial expenditures. Also, the respondent stated that while the use of sub-contractors could possibly yield greater efficiency, using sub-contractors is only a realistic possibility when the nature of a specific product lends itself to such a particular structure of development.

As for more general comments concerning sponsored research projects, one of the respondents emphasized that license revenue was not the only viable solution for satisfying the financial needs of universities. The respondent stated that alternative compensation models, such

as a modest up-front technology fee or out right buy-out rather than running royalties, need to be considered by universities in order to increase the possibility of collaboration. Another general comment concerning sponsored research offered by several respondents was that successful sponsored research projects need faculty professors with industry experience in the appropriate field rather than only academic credentials. Respondents felt that this aspect not only contributed to a greater quality of research, but benefited the negotiation process, because the company may be willing to give up more to work with experienced faculty members that are more understanding of industry's position on various issues.

Overall, the suggestions offered by respondents identified a greater need for flexibility and understanding by both parties during the negotiation process. The results show that companies have a desire to engage in sponsored research with universities, and many respondents indicated that they viewed sponsored research projects with universities as a very effective method of promoting technology awareness in the field. In addition, while many of the obstacles facing successful sponsored research efforts are created by differing goals and agendas, such as industry's interest in quickly bringing a product to market in order to generate profits and university's interest in promoting knowledge and development on a semester based schedule, certain respondents indicated that different priorities do not necessarily have a negative influence on sponsored research. While different agendas may potentially contribute to more difficult negotiations and dealings, one respondent stated that as a result of differing agendas it was often easier for each side to meet their needs, so long as each side's agenda was sufficiently narrow, such as a university's interest in the mere data produced by the project. In any case, flexibility and understanding of the other party's goals and restraints is critical to successful negotiations and the production of quality research projects. Without the necessary understanding and flexibility, it is often industry that faces working from a disadvantaged position, and this has great potential to create less desire on industry's part to collaborate with university researches on sponsored research.

4 Analysis and Discussion of Sponsored Research Agreements: Contentious Issues

This section will analyze industry surveys to find industry's position on contentious issues. The results from the industry surveys will be combined with the conclusions that were found while researching university sponsored research agreements.

To encourage university-industry collaboration, sponsored research agreements should be drafted to holistically represent each party's interests. For industry to gain a competitive advantage in entering into sponsored research agreements, industry should establish practices that are generally favorable to both parties, result in quick negotiation, and facilitate the production of expeditious and quality results. Contracts must yield to statutory requirements and practical considerations of each party's interests. Companies are advised to employ language that is reasonable and clear to both university and industry counsel, executives, administrators and investigators. Industry might obtain acquiescence to a term that reads unfavorably to a university by requiring the university to acknowledge the rationale of the industry's practical consideration and exactly what it must relinquish. This practice puts forth amenable language that may be acceptable to a company and encourages the university to be reasonable in its demands. Furthermore, structuring a contract provision in a manner that acknowledges pertinent university policy, and what a sponsor must compromise on, in accordance with that policy, provides sponsor reasonable notice of both. Accessible, equitable, and mutually beneficial contracting ultimately should increase negotiating efficiency and encourage collaboration. The discussion below applies these considerations to the issues in sponsored research agreements that give rise to negotiating difficulties. The implications of common and alternative approaches are explored, culminating with possible language to achieve mutually beneficial contracts.

4.1 Equipment Ownership

Equipment ownership is generally not a contentious issue among the sampled companies. Universities generally use similar language in equipment ownership provisions and the terms are drafted in a manner that facilitates cooperation among industry partners where possible.

Commonly, universities seek to retain ownership of equipment used during the project, as well as the equipment resulting from the project so it may continue pertinent research and education. Likewise, a company may seek to retain any existing ownership of equipment, as

well as equipment purchased or produced for the project, so that it may continue research and development following the project, particularly when purchased equipment constitutes a significant cost of funding. In drafting the section on equipment ownership, the university should be cognizant of a companies' right to maintain ownership over equipment the company already owns. Additionally, the company should be cognizant of the university's right to maintain ownership over equipment the university already owns.

Sampled companies indicate they would donate equipment back to the university, if a contentious issue arises. If the company or university is in need of the equipment, bailment agreements with typical terms should be used. Additionally, sampled companies indicate that because equipment ownership is generally not a contentious issue, companies do not want to waste time negotiating over the contract terms since it is a moot point. Companies are aware that in most circumstances, the university will retain ownership of equipment used during the project, as well as the equipment resulting from the project so it may continue pertinent research and education.

4.2 Contract Termination

Contract termination is generally not a contentious issue among the responding companies. Industry generally uses default contractual language in the contract termination section that is often written in a neutral tone. Such language typically states that either party has the right to terminate the contract upon giving the other party advance written notice of usually thirty to sixty days. Additionally, most universities require companies to reimburse the university for all expenses incurred and non-cancelable costs if the company terminates early.

Responding companies did not indicate there were any contentious issues on the costs at termination. This is most likely due to the fact this issue was not viewed as contentious and it is probably that industry uses language that is standard or agreeable to both university and industry. Responding companies indicated that some companies used the term that the company could terminate any financial support if there is material delay in achieving agreed upon project milestones.

4.3 Confidentiality

Confidentiality was not a contentious issue among the responding companies. Companies generally want a longer confidentiality period such as a seven to ten year confidentiality period, and the university usually wants a short confidentiality period such as a

three year confidentiality period. The compromise between university and industry generally is a confidentiality period that is between the two lengths such as a five year confidentiality period. If a university is willing to grant a longer period of confidentiality, then the company may be more willing to share “inside” information that may help their research be more on-target and productive. Companies handle confidentiality issues by reviewing publications to make sure no confidential information is included and also requiring students and professors to sign confidentiality agreements.

Some companies had concerns over export controls as the controls become increasingly important. The number of foreign graduate students who work at universities increases the concern over export control violations. Export control concerns also tie into company concerns that a project may be required to have only U.S. citizens working on the project. Also, some projects may require classified personnel which are very hard to find at a university and it is a lengthy process to get an unclassified individual through the proper government process to get their clearance and requires a large amount of money.

4.4 Ownership of Discoveries

Ownership of discoveries is a highly contentious issue. Industry participants want to own discoveries resulting from sponsored research done at the universities. In most cases industry knows that this is a point that can not be argued and must decide if they still want to enter into a sponsored research agreement when they will not be able to obtain ownership rights. In growing numbers, companies have sought research opportunities outside of the country.

While universities may own the patent to the discoveries and industry will get an exclusive license, industry is not willing to accept those terms in many cases. Almost always this is the ultimate factor in determining whether or not a company will invest in sponsored research. If industry wants to enter into a sponsored research agreement, they will most often need to accept the university terms because universities are not willing to give up patent rights.

Some agreements have included provisions that state that each entity owns discoveries made by their employees and both own joint discoveries. It is important to focus on defining what constitutes a joint invention.

For intellectual property that exists prior to the sponsored research agreement, this is less of an issue. Typically industry and universities can work out a compromise that will cover extensions on already owned intellectual property. The party that does not hold the patent will

only need a license to that technology. Since universities generally do not agree to give up patent ownership of joint or university discoveries, where there is a critical issue for obtaining patent rights for compelling business reasons, this discussion should take part first so that if there is no chance of coming to agreement with the university on this issue more time discussing a sponsored research agreement will not be wasted.

A provision addressing ownership of discoveries should provide a clear understanding of who is entitled to ownership of discoveries produced in association with the agreement under various circumstances. Most common situations provide for clear ownership; however certain scenarios that are not generally addressed with specific language can lead to conflicts over ownership.

None of the companies reported that the determination of which party will prosecute the patent as contentious. Industry did not report they had an issue with who controls patent prosecution of a discovery nor did they report there was an issue when the university owns the discovery or has joint ownership and decides not to patent it. Generally, when the party that is responsible for patenting a discovery decides not to patent it, the other party is allowed to patent the discovery if they wish. Typically both parties contribute to the actual patent application and prosecution process. It should be specified in the sponsored research agreement which party is responsible for deciding what is to be patented, prosecuting the patent, payment for patent prosecution and litigation if it should arise, and also the rights the other party will have if the controlling party decides not to patent the discovery.

4.5 Warranties and Limitation of Liability

Responding companies find that warranties and limitations of liability is a contentious issue. Industry's position is that the university in some instances tends to vastly overestimate the business value of the invention and their fair share of it. Additionally, the university seeks to impose commercially unrealistic performance and reporting burdens with potentially draconian consequences for non-compliance. Universities typically try to extract serious money from the licensee before the product/process is even commercialized, let alone profitable. In some instances, the university is naïve about the commercial risk and additional investment that the company will have to undertake.

To avoid these contentious issues, at the outset of a contractual provision encompassing refusal to warranty the research process and results, and limitation of liability resulting there

from, universities may attempt to limit absolute and adversarial language in favor of appealing to a realistic and equitable understanding of the nature of academia and scientific research.

Universities have the responsibilities of discovery and education, and are limited in their capacity to accomplish those ends. Furthermore, scientific research is inherently unpredictable. With this understanding, acknowledging a reasonable inability to offer warranties and necessary limitation of liability might be more palatable for private sponsors.

Universities commonly employ consistent language to disclaim any warranties whatsoever, including both the character and condition of the research results and their subsequent utilization. In addition, universities further specify particular situations in which warranties are not given. Such articulation solidifies a university's contractual position by putting any potential sponsor on notice, without limiting protection to those enumerated situations. Establishing that the character or condition of results is not guaranteed is of particular concern due to the unpredictable nature of scientific research. Disclaiming warranty for the validity and non-infringement of intellectual property at the outset serves to underpin this notion and ensures that sponsors do not unreasonably expect financial return. Disclaiming warranty for originality or exclusivity, which ultimately might bear on validity and infringement, is closely related. Disclaiming warranty for ownership should not be a contentious issue as a university is expected to take title according to other provisions of the contract and statutory requirements. In selecting language to disclaim warranties for the results and their use, universities may strike a balance between sufficient protection and sponsor acquiescence. A comprehensive list of disclaimers might confer the best protection, yet would deter a sponsor. Conversely, a gloss on the issue might induce sponsorship without reasonably providing notice of the realities of scientific research and other limitations inherent to academic institutions.

As institutions with public responsibility to discover, innovate and educate but with limited financial means, it is prudent for universities to disclaim and limit liability for events both arising during the life of a research agreement and as the result of employing and commercializing any results. Due to an uncertain effectiveness of broadly disclaiming all liability, as most universities do, it is advantageous for companies to also expressly limit any liability to the amount paid under the research agreement or the amount of insurance carried by the university for such situations. This restriction ensures that unfortunate consequences do not adversely affect a university's financial fitness and ability to continue operation as an educational institution. However, limitation of liability may become contentious where a

university is perceived to behave economically outside of this traditional role. A private sponsor or binding contractual interpretation may be reluctant to allow broad freedom from liability where a university's financial motive and intake overshadows its fundamental academic mission. In some instances, the sponsor can terminate the agreement if agreed-upon material delay in achieving milestones occurs.¹

Universities are advised not to simply hide behind a clause disclaiming liability, but to establish a series of barriers to liability. This protection should begin with reasonable efforts to avoid circumstances that might initially give rise to liability, including conducting due diligence and providing full disclosure to the company, and further include appropriate insurance, express assumption of risk by the company for using results and contractual limitation of liability for the university.

4.6 Publication

Contentions over publication of research results developed under a sponsored research agreement illustrate the divergent academic and industry interests inherent to research collaboration. While each party has significant interest in such technological discovery and development, it is central to academic principles that all discoveries, inventions, and research be made publicly available, particularly to other academic, government and non-profit investigators in the same field of endeavor. In this manner, publicly accessible basic scientific knowledge is available as a foundation for further investigation, discovery, and development. Conversely, a private research sponsor is likely concerned with securing innovation that would allow the sponsor to obtain a sustainable competitive advantage. Recognizing these competing rationales, contractual terms that govern publication rights in a sponsored research agreement must find a reasonable resting point between extreme interests that allows public disclosure while sufficiently satisfying a sponsor's economic needs so as not to discourage critical funding.

Industry has concerns over publication deadlines but generally the university has been willing to work with industry over publication deadlines. Industry commonly requests that the company has enough time review publications and other public disclosures to:

- (1) to identify proprietary information that was disclosed in confidence to the university, and insist that it be deleted or disguised;

¹ Achieving milestone does not mean a positive result, but a determination of whether the result is positive or negative based on data.

(2) to identify potential patentable inventions and get the patent application started.

Industry reports that universities tend to agree to allow advance review of publications and deletion of company confidential information. There is a growing concern among certain types of industry to make sure that no export controlled information is disseminated or at least provide notice to the university before it is disseminated. Typically export controlled information rests on the part of industry.

When material is being considered for patenting, industry sometimes asks for a delay in publication so that the patent may be filed. Industry did not report this was a typical source of contention. However, it could be a source of contention when industry wants to delay the publication of research materials to allow the research to be further developed especially when this conflicts with a student's thesis or other scholastic obligation.

It is reasonable that industry retain a right to review publications that will contain research material since a university research could inadvertently discuss confidential or proprietary information in a document; it is also reasonable to have a university retain the right to publish information relating to and arising out of a research undertaking. Not publishing would amount to a failure of both academic principles and public responsibility. Furthermore, for a university to satisfy the requirements of 501(c)(3) as a tax-exempt entity participating in a sponsored research collaboration, the research must ultimately become publicly accessible in an adequate and timely manner, even though the research was privately funded.² Industry may be attracted to university research programs and incentivized to fund research in part because of a university's academic and scientific reputation, quality, ability, and integrity. Both universities and sponsors should recognize that to maintain collaborative research agreements as a viable forum for discovery and technological advancement, traditional academic values must be upheld. Concurrently, research collaboration must ultimately be economically advantageous to industry for private sponsorship to continue.

Industry needs to be clear to the university that industry needs time to properly obtain intellectual property protection and in some instances it is necessary to wait for a product to mature in its design before submitting a patent application even though this may delay the university's or student's schedule. Industry still needs to reasonably cooperate with the

² See discussion *infra* §5.2.

university in meeting its basic research objective to expeditiously generate and disseminate knowledge for public benefit when it is at all feasible.

Furthermore, allowing a company to review material proposed for publication or other public disclosure, combined with an option to negotiate licensing of resulting intellectual property is an adequate means to confer an economic benefit to a sponsor despite the publication. A period of review allows a company to evaluate the disclosure for confidential information. Industry should be allowed to request that confidential information be removed from the disclosure consistent with any confidentiality provisions in the agreement. Furthermore a period of review sufficient to identify sensitive yet protectable intellectual property and further delay to protect such information by filing provisional patent application or other means should be allowed. Submission for publication is generally not considered a prior art event for the purposes of patentability. This disclosure is made under contractual restrictions and obligates reviewers and editors under an agreement of confidentiality. A provisional patent application need not include any claims, but must include enabling disclosure in which all eventual claims find support. Filing a provisional application guarantees a priority date for that disclosure so long as a non-provisional application and all foreign applications are filed within one year of the filing date.

Other public disclosures, including presentation and poster exhibition at professional symposia, become problematic because it is unlikely that everyone privy to the disclosure is bound by an agreement of confidentiality. In such situations it is critical that sensitive information be protected prior to disclosure. However, unlike submission for publication, dates of public disclosure may be fixed and not alterable by the university and provision for an additional delay might prevent the scheduled presentation. Instead, a university should give the sponsor as much notice as possible before the scheduled presentation. Ultimately the period allowed for sponsor review should be determined according to how the information is to be protected, i.e. whether the university or the sponsor is responsible for protecting the information, and whether the responsible entity retains legal counsel or maintains in-house counsel for such purposes. Alternatively, sensitive information contained in a proposed disclosure need not be fully protected in order for the disclosure to take place; rather the disclosure itself can be modified so that sensitive information is not disclosed in a manner that would jeopardize its utility. Private sponsors that routinely carry on internal research and participate in professional

and industry meetings are likely accustomed to reviewing public disclosures for sensitive information, and requiring this by contract should not impose any significant burden.

Furthermore, as educational institutions, universities have an obligation to timely allow the completion of graduate studies, which often culminate in a thesis publication. Delay should not be allowed in such a case as it would interfere with the academic schedule, however, sufficient disclosure should be made throughout the research process and particularly as thesis completion is approached to allow sponsor adequate opportunity to take appropriate protective measures.

Absolute language that unreasonably indicates an ultimate authority to delay publication of information irrespective of university interests should be avoided in order to maintain university interest and cooperation.

4.7 Indemnification

An indemnification clause is typically employed in sponsored research agreements to indemnify the university, a sponsor, or both, against damages. An indemnification clause is a standard of contract language, and not likely a clause with much leeway for negotiation. Neither the university nor the sponsor is likely to be able to escape indemnity in all cases by drafting a broad indemnification provision.

A broad indemnification clause may have limited efficacy, and if included it is important that both parties believe it is mutually beneficial or equitable. If a university requires that a sponsor must indemnify the university, it is not unreasonable for the sponsor to expect the same protection. On some occasions, the indemnification clause has been found to be very one-sided and meant only to protect the university's interests, without providing protection for the sponsor from the "deep pockets" syndrome of United States tort law. In the event of a one-sided indemnification clause, the sponsor will counter with terms that are symmetrical and balanced for both parties. However, sponsors are usually able to accommodate state statutory requirements of state-supported universities. In some instances, the indemnification clause will be removed if the university and sponsor cannot reach mutual agreement. In other instances, the issue is left unresolved and a mutual agreement is never made.

When contentious issues arise, some companies indicated they have decreased overhead for research because the decreased overhead is likely to generate near-future royalty revenue, while higher overhead for fundamental research is not likely to generate revenue in the

near or intermediate term. In other instances, sampled sponsors negotiated their overall rates down.

Several universities include a clause that limits the maximum liability to not exceed the amounts paid by sponsor for the project related to the agreement. This is advisable because, even if the broad indemnification clause is not enforced, the liability incurred will be limited. A sponsor's indemnification should be equally limited, particularly with smaller sponsoring entities and funding amounts.

4.8 Licensing Provisions

Generally, specific licensing provisions are not included in the sponsored research agreement in accordance with legislative restrictions. The majority of sponsored research agreements contain only limited provisions that govern the future right to license technology developed under the research project. Universities are advised to consult with technology transfer personnel while drafting sponsored research agreements because once executed, the provisions therein may impact the scope and structure of future licensing agreements.

The manner in which licensing provisions are handled at the sponsored research stage of collaboration may become a contentious issue between a university and a private sponsor due to the sponsor's preference for an exclusive, up-front license to technology resulting from the project. A university cannot accommodate that interest because licensing provisions are subject to federal legislation, including the Bayh-Dole Act and IRS Revenue Procedure 97-14. Under the IRS Revenue Procedure 97-14 a University must take title to any intellectual property resulting from a sponsored research agreement.³ Any license to such intellectual property must be on the same terms for the sponsor and any non-sponsoring party, that is, fair market value.⁴ Furthermore, a sponsor must pay a competitive price for the research and that price must be determined after the technology is ready for use.⁵

Contentious issues arise when determining the university and sponsor royalty amount and upfront fees. Agreement is difficult to come by since the price cannot be determined until after the technology is ready for use. In order to resolve contentious issues, sponsors indicate the

³ Intellectual Property Incorporated into Sponsored Research Agreements: Explanation of IRS Procedure 97-14, Rochester Institute of Technology, August 2005.

⁴ Intellectual Property Incorporated into Sponsored Research Agreements: Explanation of IRS Procedure 97-14, Rochester Institute of Technology, August 2005.

⁵ Intellectual Property Incorporated into Sponsored Research Agreements: Explanation of IRS Procedure 97-14, Rochester Institute of Technology, August 2005.

option to license should contain boundaries on financial aspects, i.e. a cap on royalties - dollar paid up amount or maximum duration, and a range of royalty rates. Furthermore, universities can use field of use restrictions to permit them to exploit intellectual property in other areas that do not compete with the sponsor or licensee.

Although a university cannot enter into a license agreement at the time a sponsored research agreement is executed, it may provide a first opportunity to license technology developed under the agreement once it can be valued at fair market. As a result, licenses are generally executed shortly after inventions are developed to the extent they can be assigned a fair market value and are disclosed to the sponsor. It is important that a sponsor knows it will be treated fairly in the licensing process and that a provision offering a future right to negotiate a license be explained as a reasonable alternative to outright ownership or negotiation concurrent with a sponsored research agreement.

It is reasonable that a university give a sponsor notice that all licenses are subject to its general intellectual property policies as outlined by the corresponding office. Furthermore, requiring an affirmative acknowledgment that a sponsor will exert its best efforts to rapidly develop licensed technologies and make them publicly accessible reinforces that the contract is structured to promote underlying public policy principles.

Most universities grant a first right to negotiate an exclusive license to the technology developed under a sponsored research agreement within a limited time after disclosure of the technology. A university might state that it is free to license to a third party, however, for a set period of time, the university will not do so on more favorable terms than were offered to the sponsor without first offering those more favorable terms to the sponsor.⁶ Unlike many university approaches, this provides not only a first right to license but also an assurance to sponsors that they will never be disfavored in comparison to a third party.

All universities grant a sponsor the right to a non-exclusive, royalty-free, and non-transferable license to use the research and results for its own internal, non-commercial, research. This is equitable in that a sponsor may obtain a clear and immediate benefit from research that it funds. However, distinguishing between a sponsor's non-commercial and commercial research activities may be problematic. If the agreement allows such a grant, appropriate uses of the technology within a sponsor's operation must be clearly defined.

⁶ California Institute of Technology, Sponsored Research Agreement, p. 5, received from technology transfer office, Oct. 13, 2005.

All universities retain the right to a non-exclusive, royalty-free, and non-transferable license to use the technology covered by a sponsor's license for its own internal, non-commercial, research and educational. This is beneficial to both the university, in furtherance of its interests, and ultimately the sponsor as useful advancements and further discoveries pertaining to the research agreement subject matter might be made, and either subject to a sponsor's existing license or become available for a sponsor to license. Additionally, universities may wish to retain the right to grant a non-commercial research and educational license to other academic institutions or non-profit organizations. This serves academic research interests by making information freely available to those who might employ it and further advance the state of knowledge. However, a sponsor may not approve of a third party non-commercial grant as it would be less likely to directly benefit from resulting advancements.

A university may draft an agreement stipulating that no license or other rights in technology developed under the project are given to or received by sponsor except as specifically provided for in the agreement so that it is clear to the sponsor that no license has been formed through the sponsored research agreement. Furthermore, it is reasonable to indicate that if a sponsor decides not to enter into a license agreement for any reason within a certain amount of time or fails to make payment for intellectual property expenses, the university shall be free to license that intellectual property with no obligation to the sponsor.⁷ Such a clause ensures that a sponsor knows the intellectual property can be licensed to a third party without violating a best rate policy or such.

Unless an exclusive license is extended to the sponsor, the university will be free to license to a third party. As noted earlier some universities provide that the university will not agree to license a third party on more favorable terms than were offered to the sponsor without first offering the sponsor a license on those more favorable terms and providing the sponsor with a period of time in which to accept such offer.

The typical royalty range companies prefer when entering negotiations with universities varies widely, depending on the field, the related business, the specifics of the application, and the money and research necessary to bring product to market. For example, a royalty rate of 0.05% of net sales may be reasonable. A rate of 3% of net sales might be reasonable only for a

⁷ Lehigh University, Office of Technology Transfer, Sponsored Research Agreement, §8, *available at* <http://www.lehigh.edu/~inors/Spons%20Research%20Agrmt%202-04.doc> (last visited Oct. 14, 2005).

very profitable, high-margin product or process in which the university's contribution is absolutely pivotal and enabling.

Some companies reported 2-5% of net earnings, another reported 1-2% of the selling price. Some companies indicated that it depends entirely on the value added from the product feature. Generally a 0.5% - 5% royalty rate is typical and 5% - 10% for primary enabling of technology. Some companies reported that they do not typically have royalties because there are usually field of use limitations.

The typical royalty range negotiated is very similar to the royalty range that sponsors prefer when entering negotiations. Some companies reported the range they negotiate is generally 2-5% of net earnings. One sponsor reported 1-3% and another sponsor indicated they generally negotiate between the ranges of 0.5% - 5%. The royalty rates negotiated vary too much to provide an average percentage because of all the factors.

4.9 University Overhead

University overhead is generally not a contentious issue among the responding companies regardless of company size. Universities also did not report this as a contentious issue as often universities offer choices on overhead rates dependent on other contractual considerations such as rights to intellectual property.

5 Legislation

Universities and sponsors must be cognizant of federal legislation that impacts sponsored research agreements and dictates the structure of certain terms. The Bayh-Dole Act, the IRS Revenue Procedure 97-14, and the CREATE Act all bear upon the balance of university-sponsor property rights. In drafting contract terms, universities are advised to explain these requirements and offer appropriate balancing concessions.

5.1 *Bayh-Dole Act*

Enacted in 1980, the Bayh-Dole Act created a uniform patent policy among the many federal agencies that fund research or development, enabling small businesses and non-profit organizations, including universities, to elect to take title to inventions made under federally-funded research programs.⁸ The Bayh-Dole Act imposes certain duties and obligations upon Universities in exchange for the right to title. For example, it provides that the Federal Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States for any subject invention throughout the world.⁹ Under 35 U.S.C. §203 the federal agency under whose funding agreement the subject invention was made shall have “march-in rights” to the invention if one of the four provisions in the section has been met.¹⁰

A university must also disclose each subject invention to the federal agency that funded the project within a reasonable time of the inventor disclosing it to the university and the government may receive title to any subject invention not disclosed to it within such time.¹¹ A university must agree to file a patent application within the allowed time as set out in the patent laws and also allow enough time for the government to claim any unclaimed inventions.¹²

A university must give priority to small business firms to license an invention where it proves feasible after a reasonable inquiry.¹³ Furthermore, a university must share royalties with the inventor.¹⁴

⁸ http://www.autm.net/aboutTT/aboutTT_bayhDoleAct.cfm Last viewed November 20, 2005.

⁹ See 35 U.S.C. §202(c)(4) (2004).

¹⁰ See 35 U.S.C. §203 (2004).

¹¹ See 35 U.S.C. §202(c)(1) (2004).

¹² See 35 U.S.C. §202(c)(2, 3) (2004).

¹³ See 35 U.S.C. §202(c)(7)(D) (2004).

¹⁴ See 35 U.S.C. §202(c)(7)(B) (2004).

The balance of any royalties or income earned by the university with respect to subject inventions, after payment of expenses (including payments to inventors) shall be utilized for the support of scientific research or education.¹⁵

5.2 IRS Revenue Procedure 97-14

If a university entering a sponsored research agreement is either a state or municipal entity (e.g. a state university) or a tax exempt non profit organization, as defined by Internal Revenue Code §501(c)(3), and has used tax-exempt bond financing for facilities in or with which the research will be undertaken, it must abide by Internal Revenue Service Revenue Procedure 97-14.¹⁶ This legislation imposes several requirements significant to sponsored research. Firstly, research undertaken must qualify as “basic research.”¹⁷ According to the statutory interpretation of that term, the research must not be characterized as having a specific commercial objective.¹⁸ Secondly, such a university must take title to all intellectual property that results from a sponsored research agreement, and it is not obligated to offer a sponsor any licenses to that intellectual property.¹⁹

At the sponsored research stage, a university may grant a sponsor the first right to negotiate an exclusive license to the technology, but may not otherwise initiate a licensing agreement until the resulting technology is available for use, at which time it can be competitively valued. While a university is not required to offer licenses to third parties, the sponsor must pay a competitive price. This requires that the license not be executed concurrent with the sponsored research agreement but rather when the technology is sufficiently developed to a marketable stage.

Furthermore, as a tax-exempt entity, a university must serve a public, rather than private interest, which requires in part that any research must be carried out in the public interest. To satisfy this requirement in a sponsored research setting, the research must ultimately become publicly accessible in an adequate and timely manner, even though the research was privately funded. However, a sponsor may have rights to obtain control of any resulting intellectual property. Disclosure resulting from a patent grant may not be sufficient, and the disclosure must substantially disclose any information that would be beneficial to the public. Delay beyond a

¹⁵ See 35 U.S.C. §202(c)(7)(C) (2004).

¹⁶ Frederic L Ballard, *Tax Exempt Bonds and Sponsored Research*, 36 J. Health L. 43, 43-44 (2003). See also I.R.C. §501(c)(3)(2005); Rev. Proc. 97-14, 1997 C.B. 634.

¹⁷ *Id.* at 6-7.

¹⁸ *Id.* at 7.

¹⁹ *Id.*

reasonable period in which intellectual property rights can be secured is inappropriate, and renders the research as not being carried out in the public interest within the meaning of 501(c)(3).

5.3 CREATE Act

Congress enacted the Cooperative Research and Technology Enhancement Act (CREATE Act) in 2004.²⁰ Prior to the enactment of the CREATE Act, a confidential disclosure by a researcher during the course of a collaborative research project could be cited as disqualifying prior art in a later filed patent application if the later filed patent application covered would be obvious from the previously disclosed information and listed different inventors.²¹ This obstructed communication among researchers in collaborative research projects and rendered the results of collaborative research efforts vulnerable to invalidity challenges.²² The CREATE Act sought to remedy these problems by providing that such confidential disclosures shall not preclude patentability “where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person.”²³ The patent act of 2005 would reinstate the CREATE Act limitation on disqualifying prior art in collaborative research projects as well as the conditions necessary to claim this prior art limitation.²⁴ The conditions necessary to establish the prior art limitation in collaborative research projects are that:

- (1) The claimed invention was made by, or on behalf of, parties to a joint research agreement that was in effect on, or before, the effective filing date for the claimed invention;
- (2) The claimed invention was made as a result of activities undertaken within the scope of the joint research agreement;
- (3) The patent application for the claimed invention discloses the names of the parties to the joint research agreement.²⁵

²⁰ Public Law No. 108-453 (codified as amended at 35 U.S.C. §103) (2004).

²¹ See generally *OddzOn Products, Inc. v. Just Toys, Inc.*, 122 F.3d 1396 (Fed. Cir. 1997).

²² Draft: 9/7/2005, written by T.Hagelin.

²³ 35 U.S.C. §103(c)(1).

²⁴ H.R. 2795 §3(b)(2).

²⁵ *Id.*

6 Conclusion

There is consensus that changes need to be made in order to encourage more sponsored research agreements between industry and universities. Obtaining industry data on the contentious issues in sponsored research agreements was extremely difficult and resulted in only a small sample pool. Industry is very interested in the results of this project but many of the respondents were hesitant, or refused, to provide information on their own practices. With a larger sample pool it should be possible to see common trends in specific research areas. The companies that did respond were in agreement on the contentious issues in sponsored research agreements and their findings.

From the industry's perspective, privately sponsored research projects and university collaboration are designed to promote the more efficient development of various products by utilizing the faculty expertise, state of the art facilities, and overall manpower of universities, which will ultimately yield higher quality results and greater profits for participating companies. Private sponsors are more likely to enter into sponsored research agreements if the terms are constructed in a manner that provides a reasonable understanding of university rationales and restrictions and results in an equitable balancing of university and industry benefits. Private sponsors are likely to achieve more favorable relations with universities by structuring contracts that are clear, concise, and informative of industry rationales.

Appendix A

An Approach to Sponsored Research Agreements: Reference Materials for Prospective Private Sponsors and Academic Administrators and Investigators

Mutually beneficial and efficient negotiation of sponsored research agreements is considered critical to foster collaboration between universities and private sponsors. Universities rely on such collaboration to fund basic research and fulfill their institutional mandates, whereas private sponsors are primarily interested in gaining access to leading researchers and research projects. The academic intention to make and publicly disclose scientific advancements and developments is generally at odds with industry desire for competitive advantage conferred by limited disclosure.

Possible practices gleaned from contractual analysis and discussion of the most commonly contentious issues are outlined below:

Equipment Ownership

- Equipment ownership is not generally a contentious issue between universities and industry. The university seeks to attain rights to equipment used during and resulting from the project by stipulating that title to any equipment purchased or manufactured in the performance of research funded under the agreement vests in the university. Adversely, a sponsor would hope to retain title to any equipment purchased with research funds it provides.
- As a result of a properly drafted equipment ownership clause, each party may define ownership rights to the equipment that it brings to the project. Most commonly, in the absence of an express agreement otherwise, title to any equipment purchased or fabricated with sponsor provided research funds vests in the university, whereas equipment purchased by a sponsor outside of the agreement but loaned for research purposes may be returned.
- Equipment ownership provisions should be appropriately tailored to reflect the prominence and expense of the equipment in the research project, and each party's potential downstream activity requiring the equipment.

Contract Termination

- Contract termination is generally a non-contentious issue that specifies each party's termination rights for the duration of the proposed project. Either or

both parties might realize a need to terminate their involvement as a result of situations that arise during the course of the project, including changing research focus and financial, personnel or facility situations.

- A properly structured termination clause offers both parties a clear understanding of under what conditions each party is allowed to terminate. Universities commonly stipulate that either party has the right to terminate the agreement at any time upon advanced written notice.
- Generally a university refunds all unused funds to the sponsor after withholding the amount necessary to satisfy non-cancelable obligations. At no time is a sponsor relieved from non-cancelable obligations.
- In the event a contract is terminated, the sponsor should be allowed access to the research created up to that point in accordance with contract provisions governing ownership of discoveries and licensing.
- When timing is critical, the contract should reflect the ability of the sponsor to terminate when there is a material delay in achieving agreed upon

Confidentiality

- Protecting confidential information is not generally contentious, but ambiguous detail to what information is considered confidential and how it is protected might create conflict.
- Neither party wants its confidential information unnecessarily disclosed to a third party because it may negate certain industry advantages. Furthermore, neither party wants to be responsible for improperly disclosing the other's confidential information, because it may place them in breach of the agreement or subject to costly litigation.
- It is advisable for the agreement to state who will be bound by the agreement; require marking of confidential information; address protection provisions; establish a term of years to maintain confidentiality; and discuss oral disclosures of confidential information.
- Where government security is at risk, sponsored research agreements should contain language permitting disclosure of confidential information only to persons with appropriate security clearance.

Ownership of Discoveries

- Ownership of discoveries is highly contentious and heavily sought by both parties. When discoveries are made in situations not explicitly addressed by the agreement, conflicts are likely to arise in determining who retains ownership.
- An agreement should include language that accounts for all the relevant scenarios of development, specifically in regards to facilities used, and also a default clause will account for discoveries developed outside of the agreements explicit provisions.
- An agreement should include language that governs the request and filing for patents, which party will incur the expenses associated with such filing, and what options are available to the other party, should one party choose not to pursue patent protection.

Warranties & Limitation of Liability

- In disclaiming warranties for the research and results and limitation of liability resulting from their use by a sponsor, it is advisable to limit absolute and adversarial language. Appealing to a realistic and equitable understanding of the nature of academia and scientific research itself may encourage a sponsor to accept otherwise unfavorable terms. Universities carry responsibilities of discovery and education, and are limited in their capacity to support those goals. With this understanding, acknowledging a reasonable inability to offer warranties and necessarily limiting liability might be more palatable for private sponsors.
- In addition to broadly disclaiming all warranties for any matter whatsoever, universities are advised to further specify particular situations in which warranties are disclaimed. Such articulation solidifies a university's contractual position by putting any potential sponsor on notice, without limiting protection to those enumerated situations.
- Establishing that the character or condition of results is not guaranteed is particularly important due to the unpredictable nature of scientific research.
- Disclaiming warranty for the validity and non-infringement of intellectual property ensures that sponsors do not unreasonably expect financial return from scientific investigation.

- It is prudent for universities to disclaim or otherwise limit liability for events arising during the life of a research agreement and as the result of employing and commercializing any results.
- It is advisable to expressly limit any liability actually found to the amount paid under the research agreement or the amount of insurance carried by the University for such situations in addition to potentially unenforceable broad limitations of liability. This may ensure that unfortunate consequences do not adversely affect a university's viability as an educational institution.
- Universities are advised not to simply hide behind a clause disclaiming liability, but to establish a series of barriers to liability. This protection should begin with reasonable efforts to avoid circumstances that might initially give rise to liability, and include appropriate insurance, express assumption of risk by sponsor for using results and contractual limitation of liability for the university.

Publication

- Divergent academic and industry interests in the disclosure of research results create barriers to collaboration. While each party has significant interest in the research and results, it is central to academic principles that the research and results be made publicly available. Publicly accessible research knowledge must be available as a foundation for further investigation, discovery, and development. Conversely, a sponsor is likely concerned with securing information to achieve a competitive advantage. Recognizing these competing rationales, contract language must find a reasonable resting point that allows both public disclosure and satisfies a sponsor's economic needs so as not to discourage critical funding.
- For a university to satisfy the requirements of 501(c)(3) as a tax-exempt entity participating in a sponsored research collaboration, the research must ultimately become publicly accessible in an adequate and timely manner, even though the research was privately funded.
- Allowing sponsor review of a proposed publication or other public disclosure, combined with an option to negotiate a license to intellectual property contained therein is an adequate means to confer an economic benefit to a

sponsor. A sponsor should be allowed to request that confidential information be removed from the disclosure in agreement with any confidentiality provisions in the agreement, and sufficient opportunity to protect sensitive intellectual property by filing a provisional patent application or taking other appropriate measures.

- Submission for publication is generally not a prior art event that would preclude patentability due to lack of novelty, but other forms of public disclosure including presentation and professional meetings likely would be.
- Absolute language that unreasonably indicates an ultimate authority to disclose information irrespective of sponsor interests should be avoided in order to maintain sponsor interest and confidence.
- No additional delay for protective measures following an appropriate period of sponsor review should be allowed where the disclosure is a student thesis.

Indemnification

- An indemnification clause is necessary to ensure that a university's viability as an academic institution is not jeopardized by costs arising out of the project that exceed the amount provided.
- Because the effectiveness of a broad indemnification provision is uncertain, a university should explicitly limit the maximum liability to not exceed the amount paid by the sponsor for the research project.
- In an effort to diminish a sponsor's burden incurred as the result of any claim, a university is advised to indicate that it shall promptly notify sponsor of any claim, and cooperate with the sponsor in the defense of such a claim.
- Likewise, a university should require that the sponsor consult with the university in the defense of such claims and allow university review of any proposed settlement prior to its approval.

Licensing Provisions

- Licensing of technology developed under a sponsored research agreement may be subject to restrictions under the Bayh-Dole Act and IRS Rev. Proc. 97-14. As a result, a university may not execute a license to that technology at the time a sponsored research agreement is executed.

- A university may allow a sponsor the first right to reasonably negotiate an exclusive license on favorable terms within a set time period.
- Such favorable terms may ensure that the sponsor is not disfavored to any third party, however,
- The agreement should indicate that in compliance with IRS Rev. Proc. 97-14, the license must reflect true market value for the technology.
- The agreement may stipulate that any licenses are subject to university intellectual policy, but should enumerate any critical feature thereof in order to provide sponsor reasonable notice.
- In adhering to academic principles, it is advisable to require that a sponsor will exert its best efforts to rapidly develop licensed technologies and promote public disclosure if at all appropriate. A sponsor's failure to do so within defined parameters should be considered a material breach.
- The agreement should stipulate that no other rights in university technology are granted except as those specifically provided for to make it clear that no license has been formed through the sponsored research agreement.

Appendix B

List of Contacted Companies

AAI Corporation
Abbott Laboratories
Acrolite
Air Innovations
Air Products & Chemicals Inc
Albany Molecular Research, Inc.
Alion
ALSTOM Signaling Inc
Altarum
ALZA Corp
Amgen, Inc.
Anaren
Angiodynamics, Inc.
ATT Labs
B.G. Sulzle Inc. / Inter-V
BAE
Battelle Memorial Institute
Bausch and Lomb
BBN
BD Co
Biophan
BioResearch Monitors, Inc.
Black River Systems Co, Inc
Bristol-Meyers Squibb
CADimensions
Syracuse University Case Center
Charles River Laboratories
CNY Medtech
Colgate-Palmolive
Collabworx
Colsa
Complete Health Clinics
ConMed
Corus Pharma Inc
Creative Neuroscience Applications
Critical Link
cxTec
D'Antonio Consultants International, Inc.
Design Prototyping Technologies
Diamond Visionics
Dow Chemical
Draper Laboratory
DuPont
Dynerics, Inc
Endicott Interconnect
Engedi Technologies Inc
EntreMed Inc
Excellus BlueCross BlueShield
Exxon Chemical
GE Global Research
GlaxoSmithKline
Global Instrumentation
GTRI
Higbee
Honeywell
Huntsman Corp
IBM Corp
IBM Watson Center
IIT Research Institute
InfiMed
In-Q-Tel
Insurgical
Intel
ipCapital Group, Inc
ITT space industries
JB Allred & Associates
Kodak
Kosan Biosciences
LaBarge
Lexis Nexis
Lockheed Martin
Lorch Microwave
ManTech International Corp
Martek Biosciences Corp
MeadWestvaco Corp
MGI Pharma Inc.
Microsoft
Midwest Research Institute
MITRE
Monsanto Company
Motorola Inc.
NanoHoldings LLC
Navigator Technology Ventures
Navitar
Newport Corp
NextTechs Technologies LLC

Norwich Clinical Research Associates
(NCRA)
Novus Biologicals Inc
NYIEQ
NYSTEC
OhmCraft Inc.
Osmose
Par Government Systems
Parlec
Pfizer
Pitney Bowes
Pixel Physics
Polymer Conversions
PPC
Precision Systems Manufacturing
Procter and Gamble
Procter & Gamble
Promega Corp
Purplewire
Qualyst Inc
Radiance Technologies
Rand Corporation
RAS
Regeneration Technologies
Research Triangle Institute
RS Medical
SAIC
Scandinavian Health
Seneca Data
Sensis
SI International
Sierra Nevada Corporation

Sigma Aldrich Corp
Skyworks Solutions Inc
Solutron
Southern Research Institute
Southwest Research Institute
Sparta Corporation
Spectral Systems Inc
Syracuse Research Corporation
SRI International
Strategic Computer Solutions
Tabtronics
Telephonics
Tessy Plastics
Texaco, Inc.
Textron Innovations Inc.
TextWise
Toray Industries Inc
Transition Therapeutics Inc
University relations at Corning
Upstate USA Inc
USADatanet
Vanguard Technologies LLC
Varian Inc
Viragen Inc
Visory Group
Vybion, Inc.
Welch Allyn
Windmill International
Wyeth
Xerox Corporation
Zephyr Sciences Inc

Appendix C

Survey

Industry – University Sponsored Research Agreement Survey

Name: _____

Company: _____

Title: _____

Do we have your permission to use your personal name in our report? ___Yes ___No

Do we have your permission to use your company name in our report? ___Yes ___No

Thank you for taking the time to complete this survey. Your responses will facilitate collaboration between University and Industry.

I. General Information

1. Does your company have sponsored research agreements?

___ Yes ___ No

(a) If yes, what compelled you to enter into a sponsored research agreement?

1. _____

2. _____

3. _____

(b) If no, why not?

1. _____

2. _____

3. _____

2. Does your company have a standard research agreement form? Please attach a standard research agreement (you may redact any confidential information).

___ Yes ___ No

3. How many sponsored research agreements does your company generally enter into each year? _____

4. How many sponsored research programs are currently operating? _____

5. What is the typical duration of your sponsored research agreements? _____
6. Thinking of the last sponsored research agreement, how much did the University invest?

 - (a) What resources did the University provide? _____
7. How long does it take to form a sponsored research agreement from initial contact through a signed contract? _____
8. How satisfied were you with the contract negotiations? (choose 1)
 - ___ Not satisfied
 - ___ Somewhat satisfied
 - ___ Satisfied
 - ___ Very satisfied

II. Contracting Language

9. Please rank the following on the most contentious issues (1-8, where 1 is the most contentious issue):
 - ___ Equipment Ownership Policies and Practices
 - ___ Terms of Contract Termination
 - ___ Confidentiality Agreements
 - ___ Ownership of Discoveries
 - ___ Warranties: Limitations on Liabilities
 - ___ Publications
 - ___ Indemnification Clause
 - ___ Typical Licensing Agreements
 - ___ Foreign Student Clearances
 - ___ No Control Over Urgency/Timing
 - ___ University overhead is high and not affordable by small companies
 - ___ Other: _____

10. Please describe the main issues that arise under each of the following contentious issues if there were any. Please also include how the issues were resolved. Where an issue was not contentious please indicate as 'Not Contentious'.

(a) Ownership of Discoveries

Contentious Issue: _____ Yes _____ No

How was it resolved? _____

(b) Publications

Contentious Issue: _____ Yes _____ No

How was it resolved? _____

(c) Typical Licensing Agreements

Contentious Issue: _____ Yes _____ No

How was it resolved? _____

i. What is the typical royalty range you would like when entering negotiations?

ii. What is the typical royalty range negotiated? _____

(d) Equipment Ownership Policies and Practices

Contentious Issue: _____ Yes _____ No

How was it resolved? _____

(e) Terms of Contract Termination

Contentious Issue: _____ Yes _____ No

How was it resolved? _____

(f) Confidentiality Agreements

Contentious Issue: _____ Yes _____ No

How was it resolved? _____

- (g) Warranties: Limitations on Liabilities
Contentious Issue: _____ Yes _____ No
How was it resolved? _____
- (h) Indemnification Clause
Contentious Issue: _____ Yes _____ No
How was it resolved? _____
- (i) Foreign Student Clearances
Contentious Issue: _____ Yes _____ No
How was it resolved? _____
- (j) No Control Over Urgency/Timing
Contentious Issue: _____ Yes _____ No
How was it resolved? _____
- (k) University overhead is high and not affordable by small companies
Contentious Issue: _____ Yes _____ No
How was it resolved? _____
- (l) Other: _____
Contentious Issue: _____ Yes _____ No
How was it resolved? _____

11. What specifically did the university provide to encourage you to enter into this agreement? _____

12. What universities do you have sponsored research agreements with and why? (Please list)

- a. _____
- b. _____
- c. _____

13. What University would you want to work with if you could get past an issue?

14. Of the completed sponsored research agreements where the research was completed how satisfied were you with the outcome?

- None (0%)
- Rarely satisfied (less than 25%)
- Seldomly/Decently satisfied (26% - 50%)
- Most often satisfied (51%-75%)
- Largely satisfied (76%-100%)

15. What are the key leanings from your experience working with universities?

Please list any other comments you have regarding what universities can do to encourage more university-industry collaboration:

III. Company Information

This section is to help us get a brief understanding of your company.

1. How old is your company? _____

2. Is your company public or private? _____

3. How many people are employed by your company?

1-100 501-1000 5001-10,000

101-500 1001-5000 >10,000

4. What industry are you in? (ex. Pharmaceuticals, Defense)

5. What percentage of your budget do you spend on sponsored research agreements?

6. What percentage of sales do you put into R&D?
