Sandia National Laboratories

Response to DOE's Questions Concerning

Technology Transfer Practices at DOE Laboratories

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Lack of Funding for DOE Laboratories to Work with Industry - The Top Barrier to Technology Transfer between DOE Laboratories and Industry

The fact that the DOE national laboratories do not have explicit government funding to apply their diverse set of unique technologies and expertise to a diverse set of industry sectors is by far the greatest impediment to DOE's technology transfer program today. Although many of the transactional and process related impediments addressed in the responses to the questions below certainly exist and must be resolved, the issue of government funding for labs to work with industry must be addressed first if the technology at the labs is to reach is its huge potential for making American industry competitive and for helping the US economy to recover.

Top Priority for DOE - Restore Agency Funding for Industrial Partnerships

For Technology Transfer to succeed at DOE, DOE must seed industrial partnerships with program funding. Such funding did exist in the 1990s with the Technology Transfer Initiative (TTI) and other programs. Funding levels were sufficiently large (~$200M), and the funding was flexible enough for the labs to use a diverse set of technologies to improve American competitiveness in several industrial sectors. Sandia has led the DOE in industrial interactions both in numbers and funding levels since the inception of technology transfer at DOE, and almost every one of our important industrial partnerships (Goodyear, Intel, etc.) originated with Sandia receiving explicit DOE funding to participate. In fact none of these partnerships would have occurred without the government funding as the incentive for industry to work with the Labs. The economy today is such that an even larger level of funding is needed to help an even broader set of industrial sectors to recover.

Why is Such a Program Necessary?

Risk mitigation—an imperative for U.S. industry. DOE funding is needed for industrial partnerships to be a vibrant part of DOE's mission. The outcome of research and development is unknown until a partnership between a laboratory and a company is underway. In some cases, the partnerships have exceeded expectations (e.g. Goodyear/Sandia), but the results could never have been anticipated beforehand. DOE funding for industrial partnerships is the incentive for industry to accept the risk, and increases the chances for success by bringing more potential industry partners to the labs. Furthermore in today's economic environment many companies do not have the money to fund the labs directly even if they were convinced the labs could help them.

A Strong Economy, Today and In the Future

Government funding for the labs to work with industry is essential in today's climate. Funding for national laboratories to work with industry holds the promising of creating new innovative products that will allow industry to compete more effectively rather than merely maintaining the status quo.

How to Implement

Establish a new program at DOE that funds the national laboratories, through a competitive proposal process, to work with a diverse set of companies and industry groups to work on the nation's most compelling problems.

Responses to Questions

Question 1: Existing and Other Agreements

(i) What improvements to the existing transactions would you suggest that DOE consider?

Time to market is a critical factor for companies to remain competitive in an industry. Therefore, decreasing the time for getting work agreements in place is a high priority to our partners. All improvements under review by DOE should take this need into consideration.

A. Eliminate 90-Day Advance Funding Requirement

Eliminate the requirement for maintaining 90-day advance funding for non-federal entity (NFE) reimbursable projects. As an alternative, manage the requirement for 90-day advance funding at the Budget and Reporting (B&R) level (Program 60), vice at the project level.

How to Implement:

Modify DOE Accounting Handbook to eliminate the requirement for maintaining 90-day advance funding for non-federal entity reimbursable projects as long as contractor escrow account is held at risk. As an alternative, modify the Handbook to manage the requirement for 90-day advance funding at the Budget and Reporting (B&R) level (Program 60), vice at the project level.

B. Eliminate the 3% Federal Administration Charge (FAC)

Besides FAC being an unfamiliar concept and source of major irritation to our industrial partners, processing FAC waivers and FAC billings, collections, and transfers to DOE/NNSA requires a significant amount of resources by M&O Contractor's CFO and line financial and program personnel. M&O Contractor and DOE/NNSA personnel must process the requests and justification for waivers based on blanket pricing exceptions for each project proposal submitted. Monthly invoices are generated for the M&O Contractor costs and FAC charges. Monthly reconciliation of FAC between M&O Contractor and DOE/NNSA accounting records must be performed. M&O Contractors have collection issues with FAC invoices and expend extensive overhead resources responding to questions from customers, collecting FAC invoices, and processing payments. Quarterly M&O Contractors are required to report amount of FAC waived.

In addition to the overhead costs incurred by M&O Contractors to process FAC payments, DOE/NNSA Operations Offices/Service Center is also involved in collecting, reconciling, and transferring FAC funds. Also, WFO sponsors and CRADA partners program and financial personnel must process the FAC invoices for payment, process payments, and respond to issues associated w/FAC waivers, invoices, non-payment, etc. When combined, the overall costs to the government incurred by the DOE/NNSA, DOE/NNSA contractors, other federal agencies, and non-Federal entities does not warrant the effort to collect/account for the 3% FAC.

How to Implement:

1. Modify DOE Order 522.1 to eliminate 3% FAC.
2. DOE adjust congressional budget request accordingly.

C. Approval Authorization for Agreements

Consistent with the intent behind changes to the Stevenson-Wydler legislation (which gives the agency the authority to allow the laboratory self approval of CRADAs and elimination of Joint Work Statement (JWS)) and the overall intent of establishing GOCO laboratories, Sandia proposes that Laboratories assume authority for approving and entering into agreements with non-Federal entities.

In considering work with non-DOE/NNSA entities, the Laboratories review the context relative to mission-related needs and (where it is relevant) negotiates appropriate agreement terms and conditions. Although the Laboratories are accountable for accomplishing its mission objectives, the Laboratories currently do not have the authority to implement relationships supporting the mission. Considering the complexity of the technical problems being addressed, Laboratories are in the best position to make judgments on mission relevance.

How to Implement:

Laboratories will approve all agreements. SNL approves CRADAs, WFO/NFEs, and associated documents. DOE/NNSA would continue to approve all agreements with parent companies (e.g. Lockheed Martin for Sandia) to ensure OCI issues are adequately addressed.

For Current Four WFO/NFE Certifications: SNL performs certification of FAR requirement that work is "within mission/task/function of FFRDC". Eliminate 481.1 required certifications "not create detrimental future burden" and "not adversely impact execution of assigned programs". Ensure DOE/NNSA policy intent with respect to these two certifications is accomplished through a more global WFO program assurance model. Modify 481.1 required certification that work "will not place Laboratories in direct competition with the domestic private sector."

Refer to Appendix A for a detailed discussion of A, B and C above.

(ii) Are there terms and conditions that are troublesome and what steps might DOE take to streamline these agreements?

A. Indemnity—A Troublesome Clause

For universities and other public entities barred from contractually assuming liability, the approach that labs and DOE have historically agreed on is to add the simple caveat "to the extent allowed by law . . ." and that has worked very well.

It is, in fact, industry that objects to our indemnity language. In our software licensing experience, AOL, IBM, Yahoo and Intel have all objected to our indemnity language, preventing the execution of software licenses. Consistently, the single most frequent objection to our license agreement focuses on indemnity, and since we have no alternative language to negotiate with, it becomes our job to convince the potential licensee that the benefits of acquiring the lab's software far outweigh the risks incurred by accepting our requirement to have them indemnify us.

The standard in component and software application indemnification within industry is that the licensor indemnify the licensee. When the licensee sells a product that includes the licensor's software, the licensee want to be assured that they are protected in the event that the licensor's software/components fail.

Currently, required indemnity clauses in licensing, CRADA, and WFO/NFE agreements provide a false sense of protection and can be easily defeated because of loopholes (e.g. negligence) or due to insufficient resources (e.g. for small businesses or bankrupt corporation). The required indemnity clauses are also contrary to accepted industry practice which is to use warranty disclaimers and insurance to protect against risk. Significant time is spent discussing this clause with our partners.

***A Path to Implementation*:**

Task the Technology Transfer Working Group to provide a report with its suggestions on how DOE might deal with indemnity differently. The report must be specific in identifying how this issue is addressed by the private sector, i.e. universities, State organizations, the contractors in their own private activities. Another option would be to replace existing indemnity clauses in all agreements (but not in subcontracts required in I-58) with industry-standard warranty disclaimers. Make insurance an allowable cost for the laboratory.

Refer to Appendix A for Industry feedback on the Indemnity Clause.

(iii) Are there other types of research agreements or mechanisms that should be offered at DOE labs? None

(iv) How much would such new agreements types or mechanisms be an improvement on or augment the existing agreements? None

Question 2: Best Practices

(i) Are there other agency, industry, nonprofit or university technology transfer "best practices" DOE should consider adopting? (ii) What are they and how would they improve DOE's current technology transfer program?

A. Develop a new business model for Technology Partnerships at the DOE/NNSA Laboratories.

A new governance model for Technology Partnerships at DOE/NNSA Laboratories would be based on the following principles:

- Continued support for the success of DOE/NNSA missions.
- Carrying out the intent of relevant technology transfer legislation.
- DOE/NNSA's role would be one of insight rather than oversight and project by project review and approval.
- Laboratory would have responsibility, authority and accountability for technology partnership programs.
- Laboratory's flexibility to engage in partnerships that meet the laboratory's and our partners' business objectives will be maximized.
- Benefits of the GOCO model will be maximized by allowing the M&O contractor to apply best industry practices.

How to implement:

- The Laboratories and facilities are given the authority to approve the technology partnerships.
- The Laboratories and facilities have the agility to create the appropriate partnerships in a changing world, and accept the responsibility for results.
- There are reliable self-assessment metrics to measure success and identify opportunities for improvement.
- Laboratories (and DOE/NNSA) programs benefit from strategic technology partnerships and the access to best industry practices.

B. Allow FFRDC to Participate in Requests for Proposals (RFPs)

FFRDC participation in RFPs is limited to where their unique capabilities can improve the technical solution proposed and delivered to the government by industry. FFRDC participation in solicitations as a supporting team member, with an industry partner lead respondent, may provide the technical solution that results in the industry partner "winning" the competitive solicitation. Therefore, if FFRDCs are allowed to participate in solicitations, fairness of opportunity to access FFRDC capabilities must be maintained. This legislative proposal is especially important to meet the Department of Homeland Security's strategy to provide first responders with needed technologies, and to respond to DoD's transformation strategy to rapidly provide technologies to the war-fighter.

How to implement:

Congress should request DoD lead an interagency team comprised of DoD, DHS, DOE and their FFRDCs to 1) review the technology transfer process, study the roadblocks that restrict FFRDCs from participating in the realization of national security products and services, and solicit input from industry and; 2) report back to Congress with recommended modifications to law/FAR that would enable more effective and rapid integration of FFRDC capabilities into national security products and services.

Refer to Appendix B for a detailed discussion of A and B above.

Question 3: U.S. Competitiveness

(i) What alternate approaches to addressing U. S. competitiveness would you suggest DOE consider?

Sandia recommends that DOE follow U.S. competitiveness standards that are imposed under federal law rather than the existing more stringent DOE policy. This means applying the US Manufacturing requirement only on exclusive licenses and assignments of the contractor's intellectual property, and as a preferential consideration when partners and licensees are chosen at the exclusion of others. If this is not deemed feasible by DOE, Sandia recommends alternative Article XXII U.S. Competitiveness language that would postpone a perhaps premature assessment of compliance/non-compliance with the Article.

Current policies that go beyond the statutory requirements now hinder technology transfer as many of the companies that helped build the strong US economy (and employ hundreds of thousands in the US) decline to participate rather than lose the flexibility and competitive edge gained from their global manufacturing capability. As a minimum, delays are experienced as such companies speculate about strategies for future product lines, supply chains, and geographic markets and judge the potential risk of even inadvertent compliance violations. Furthermore, some foreign companies (notably automobile, e.g. Toyota) have greater US manufacturing and employment numbers than those companies considered traditional "US" automobile companies.

See Appendix C for a detailed discussion of the clauses and recommendations.

(ii) How would these alternatives help transactions/interface with DOE facilities? (iii) Would any of these three be a useful approach to industry to better streamline the process of the U. S. competitiveness negotiation process?

The pre-approved optional language would postpone perhaps, premature assessment of compliance/non-compliance with the Article and permit the Participant to more readily agree to the other US Competiveness provisions. If future circumstances did arise which would preclude full compliance, the Participant could then submit a net benefits statement to DOE or DOE/NNSA.

(iv) Does DOE's current implementation of U. S. competitiveness have a negative impact on technology transfer? How?

In most instances, U.S. Competitiveness by itself is not a deal breaker, but the current wording is fairly rigid and attempts to force Partners with substantial overseas holdings (US multinationals or foreign companies with a substantial US presence) into a premature and unnecessary determinations, and in most instances extensively prolongs negotiations or distracts from the discussion of other Terms and Conditions.

(v) Would approaches taken by other Federal Agencies with regard to U. S. competitiveness to CRADAs be useful? (vi) If so, what are those approaches and how are they implemented?

What is being suggested by DOE/HQs often forms the gist of the Net Benefits Statement and is routinely provided by Sandia as guidance to our Partners in preparing said Statement. We would recommend that appropriate language with these "alternatives" be placed in the CRADA manual for all to see and consider.

Question 4: Intellectual Property Rights

(i) How would these proposed changes affect the attractiveness of WFO agreements?

Currently DOE's "metrics" for success revolve around industry perceptions rather than commercial impact. The Labs may need to hold title if commercial impact is the goal.

(ii) What other options do you recommend for DOE to consider?

IP Ownership should remain at the laboratories for inventions created by laboratory employees even when the NFE sponsor paid for the WFO work. DOE has spent vast resources obtaining and maintaining the laboratory and staff utilized to work the sponsor's WFO issues, so the sponsor has not truly paid full cost for the invention. The lab provides a unique service to the sponsor, something the sponsor is unable to perform and unable to contract for outside the laboratories. Having the sponsor take ownership to the invention may prevent further work for others in the technology area. Moreover, the sponsor may never utilize the invention in the marketplace and may exclude others by not licensing the invention. The net result can be that the invention is never put to the benefit of the U.S. economy.

(iii) What is the desirable disposition of IP rights that would stimulate working with a DOE laboratory or facility?

Laboratory ownership of laboratory created inventions provides the laboratory the:

- Right to regain license rights in the invention when the licensee cannot or won't bring the invention as a product to the market, meets insurmountable development obstacles, goes bankrupt, or fails as a company to productize the invention.[1] Without ownership the Labs have no ability to get the invention/technology back.
- Ability to prevent a company from shelving (keeping from the market) disruptive technologies that may hamper the company's bottom line.[2]
- Ability to achieve public benefit through the licensing for commercial development of inventions through due diligence milestones in our license agreements.
- Ability to ensure that the invention continues to be available for research use, not just by Sandia but other research institutions.

DOE's Policy Statement provides that it is the policy of DOE that: Commercialization transactions involve partners with substantial business plans to further develop and deploy the technology as expeditiously as possible.[3] WFO sponsors do not provide the labs with a business plan for expeditiously developing and deploying technologies invented by the labs. And even if the sponsor

[1] Sandia has needed to regain license rights to lab-on-a-chip technologies in order for development of commercial products to enter the marketplace.
[2] Johnson & Johnson failed to bring an invention created at the Sandia to market because it would disrupt their disposable product sales with a single sale product.
[3] Secretarial Policy Statement on Technology Transfer at Department of Energy Facilities, January 21, 2008 Principal #3.

provided a plan, if the sponsor's plan fails, ownership by the laboratory allows the invention to be carried forward by other licensees.

(iv) Does the Government reserved license in Sponsor inventions, March-In Rights, and U.S. preference clause pose any problems for a successful project?

The reserved government license causes sponsors' issues for Government Contractor types of sponsors. For sponsors in general consumer product and industrial product sector, the clause does not seem to provide much problem. US Preference has been discussed in other areas.

March in rights is sometimes an issue for sponsors, but does not seem to be a deal breaker for any.

Question 5: Negotiable or Non-negotiable User Agreements

(i) Do you think these new DOE-wide standardized User Agreement formats which allow for some negotiation will promote more timely placement of User Agreements?

It is commonly communicated that industry and universities are "confused" that different labs within the DOE have differing terms and conditions, as well as a differing way of handling transactions. The common approach to user facilities will promote more timely placement of User Agreements. A pressing need is for more "non-proprietary" funding paths, so that proposals can be accepted at the DOE User Facilities for work that is DOE-funded and openly published. Academia as well as industry could more fully utilize the labs' facilities for pre-competitive research. The proprietary agreement is also necessary so that non-federal entities can easily access the DOE's user facilities providing full-cost recovery funding.

(ii) Should DOE allow some negotiability of the terms or utilize the agreements that are non-negotiable? Please describe pros and cons of each approach.

Negotiability of the terms should be considered in the next phase of the User Facilities program. As the terms are "tested" through non-federal entity demand for using the facilities, it will become apparent whether or not negotiation is desired/required by the users. Initially, users will find more value, as will the labs, in DOE funding for non-proprietary work.

Question 6: Are there other issues, concerns, or experiences that could make working with DOE laboratories and facilities more effective and efficient?

DOE should allow and understand that variation between the Technology Partnerships programs at different laboratories may need to be set up differently. How each laboratory does the job of Technology Transfer depends upon what is most important in their mission space. Therefore, setting up every Technology Transfer ORTA the same way may not make sense.

Appendix A: Detailed Discussion on Question 1: Existing and Other Agreements

(i) What improvements to the existing transactions would you suggest that DOE consider?

A. Eliminate the requirement for maintaining 90-day advance funding for non-federal entity (NFE) reimbursable projects. As an alternative, manage the requirement for 90-day advance funding at the Budget and Reporting (B&R) level (Program 60), vice at the project level.

Discussion:

The Anti-Deficiency Act specifies that no federal agency may make or authorize an expenditure from, or create or authorize an obligation under, any appropriation or fund in excess of the amount therein. Therefore, DOE/NNSA must ensure that their M&O Contractors do not expend DOE/NNSA resources for these projects prior to receiving funds, nor continue work in the absence of funds; DOE/NNSA resources have not been appropriated to cover these expenses. DOE/NNSA has implemented very conservative policies and procedures to ensure the M&O Contractors always have advanced funding from non-federal entities to ensure NNSA resources are not used. The DOE Accounting Handbook requires full funding before beginning work on NFE reimbursable agreements that have an estimated cost of $25K or less or that will be completed in 90 days or less. For reimbursable agreements that have an estimated cost greater than $25K and that will last longer than 90 days, sufficient advance funds shall be obtained to maintain approximately a 90-day advance of funds during the life of the project and shall be collected before starting work. Each and every non-federal entity reimbursable project must maintain the required advance. The administration of the 90-day advance is very manpower intensive. Furthermore, project stoppage, if 90-day requirement is not met, is very disruptive to the project.

The intent of the Anti-Deficiency Act is that no government funds are used for activities that have not been appropriated by law. The M&O Contractors could institute controls to stop work on any project that reaches zero balance. In addition, the M&O Contractors could place a designated amount of Management and Operations Fee in an escrow account to cover any overcosts; if such overcosts occurred, the escrow account would be charged.

As an alternative, the M&O Contractor could maintain an estimated 90-day balance for the entire B&R Program 60 level. As part of its load structure, the M&O Contractor could charge an additional fee to reimbursable NFE sponsors and/or contribute their Management and Operating Fee to generate funds to be placed in an escrow account. The Labs/Plants could periodically determine the estimated 90-day balance for all active NFE reimbursable agreements and ensure that the escrow account has sufficient funds to cover approximately 90 days expenses for the entire program.

Requirements to implement recommendations:

Modify DOE Accounting Handbook to eliminate the requirement for maintaining 90-day advance funding for non-federal entity reimbursable projects as long as contractor escrow account is held at risk. As an alternative, modify the Handbook to manage the requirement for 90-day advance funding at the Budget and Reporting (B&R) level (Program 60), vice at the project level.

B. Eliminate the 3% Federal Administration Charge (FAC)

Discussion:

In 1998, Congress enacted Domenici-authored legislation that directed the DOE to drop its 25% administrative fees to 3%, and authorized the department to further lower the fees, ideally to zero. (1999 Authorization Act, PL105-261, Section 3137.) On Nov 3, 2000, Senator Domenici requested DOE to use its authority to eliminate the fee it charges to businesses and federal agencies for work done at DOE National Laboratories and other sites. "It was certainly my intent that the Department not only drop these charges to 3% or less, but your team continue to evaluate the potential for further reductions," Domenici wrote. "Thus our intent in choosing the wording was to enable you and the Department to select any charge between zero and 3 percent. In fact, since our goal was to optimize the utilization of these national laboratory resources by other entities, we would prefer that the cost added by the Department be zero." (Domenici letter to DOE Secretary Richardson and publicly requested in Nov 3, 2001 press release, speech at WIPP.)

Despite the legislation that would allow elimination of FAC, DOE Order 522.1 (Pricing of Departmental Materials and Services) has established policy that DOE/NNSA will charge a 3% FAC. The Order does allow for waiver of FAC (blanket pricing exceptions) for certain circumstances, e.g. sponsor is NIH, small business; work is part of homeland security/counterterrorism mission of agency.) (Note: Approximately 54% of SNL's WFO work is covered by these waivers.)

The funds collected by the FAC charges are utilized by DOE to offset their budget requirements. DOE could readily request the required budget. The cost to the US government/taxpayer for WFO other federal agency work would be a net zero. The elimination of the FAC would save non-Federal entity sponsors/partners 3%, a much needed savings in today's economic climate.

The impact of processing FAC waivers and FAC billings, collections, and transfers to DOE/NNSA require a significant amount of resources by M&O Contractor's CFO and line financial and program personnel. M&O Contractor and DOE/NNSA personnel must process the requests and justification for waivers based on blanket pricing exceptions for each project proposal submitted. Monthly invoices are generated for the M&O Contractor costs and FAC charges. Monthly reconciliation of FAC between M&O Contractor and DOE/NNSA accounting records must be performed. M&O Contractors have collection issues with FAC invoices and expend extensive overhead resources responding to questions from customers, collecting FAC invoices, and processing payments. Quarterly M&O Contractors are required to report amount of FAC waived.

In addition to the overhead costs incurred by M&O Contractors to process FAC payments, DOE/NNSA Operations Offices/Service Center is also involved in collecting, reconciling, and

transferring FAC funds. Also, WFO sponsors and CRADA Partners program and financial personnel must process the FAC invoices for payment, process payments, and respond to issues associated w/ FAC waivers, invoices, non-payment, etc. When combined, the overall costs to the government incurred by the DOE/NNSA, DOE/NNSA contractors, other federal agencies, and non-Federal entities does not warrant the effort to collect/account for the 3% FAC.

Requirements to implement recommendation:

- Modify DOE Order 522.1 to eliminate 3% FAC.
- DOE adjust congressional budget request accordingly.

C. Approval Authorization for Agreements

Discussion:

Consistent with the intent behind changes to the Stevenson-Wydler legislation (which gives the agency the authority to allow the laboratory self approval of CRADAs and elimination of Joint Work Statement (JWS)) and the overall intent of establishing GOCO laboratories, Sandia proposes that Laboratories assume authority for approving and entering into agreements with non-Federal entities other than DOE/NNSA .

In considering work with non-DOE/NNSA entities, the Laboratories review the context relative to mission-related needs and (where it is relevant) negotiates appropriate agreement terms and conditions. Although the Laboratories are accountable for accomplishing its mission objectives, the Laboratories currently do not have the authority to implement relationships supporting the mission. Considering the complexity of the technical problems being addressed, Laboratories are in the best position to make judgments on mission relevance.

Requirements to implement recommendation:

1) Laboratories will approve all agreements
   - SNL approves CRADAs, WFO/NFEs, and associated documents
   - DOE/NNSA would continue to approve all agreements with parent companies to ensure OCI issues are adequately addressed.

2) For Current Four WFO/NFE Certifications:
   - SNL performs certification of FAR requirement that work is "within mission/task/function of FFRDC"
   - Eliminate 481.1 required certifications "not create detrimental future burden" and "not adversely impact execution of assigned programs"
   - Ensure DOE/NNSA policy intent with respect to these two certifications is accomplished through a more global WFO program assurance model
   - Modify 481.1 required certification that work "will not place Laboratories in direct competition with the domestic private sector."
     - Laboratory Program Manager acknowledgement of non-competition requirement in agreement/proposal preparation paperwork.
     - Rely on NFE's acceptance of "not available from the private sector" article contained in NFE agreement.

3) DOE/NNSA provides programmatic oversight of Technology Partnership program. Benefits: Create a business model in which negotiations for the work and the approval of the work are under the authority of the laboratory. Improve Laboratories' ability to meet mission deliverables by forming relevant technology partnerships.
   - Enhance relationship with customers by establishing a more direct relationship between customer and laboratory provider.
   - Linking accountability (for mission) with the authority to take appropriate action.

- Allowing decisions to be made by those with the most relevant information.
- Allow DOE/NNSA to focus on more strategic aspects of Technology Transfer/Partnership program management.
- Shorten the time required to finalize contract/proposal and start of work
- Reduce paperwork required of line project managers and the oversight function.
- Reduced "stealth" overhead costs
- Improve partnership relations by reducing frustrations associated with perceived bureaucracy.
- Eliminate redundant activities (sponsors AND Sandia AND DOE/NNSA certifying non-competition.)

(ii) Are there terms and conditions that are troublesome and what steps might DOE take to streamline these agreements?

Indemnity

From AOL:

> We have had a lot of internal discussions over the last couple of weeks about the license terms proposed by Sandia, and in face of the risks associated with the infringement, warranties and indemnification terms, we have decided that AOL will not license the Jess software.
>
> Thank you for all your work trying to get this agreement in place.
>
> Luciana Zanata
> Senior Manager - Business Operations and Development
> Lucianazanata@aol.com
> phone 703 265 4179

From Unysis:

> Article 6.4 indemnification is not acceptable in the event of an infringement claim arising from the content of the Software. I also would like an explanation for the inclusion of a Government disclaimer of warranty where the Government is not a licensor of the product nor is it a party to this Agreement. This indemnify language in the event of an infringement is a problem from Unisys' standpoint.
>
> Paul Ropek
> Unisys Corporation

From Oracle:

> The indemnity provision imposes unreasonable and unacceptable liability on Oracle. Oracle cannot be held liable to indemnify Sandia if the agreement is assigned to another party- the assignee steps into the shoes of Oracle and must indemnify; the assignee accepts the benefits and liabilities of the Agreement
>
> Regards,
> Kathleen Mullin, Oracle

Appendix B: Detailed Discussion on Question 2: Best Practices

(i) Are there other agency, industry, nonprofit or university technology transfer "best practices" DOE should consider adopting? (ii) What are they and how would they improve DOE's current technology transfer program?

<u>Recommendation</u>: Develop a new business model for Technology Partnerships at the DOE/NNSA Laboratories.

Background

General - For the scientific and technical vitality of the Laboratories, work on challenging programs sponsored by a broad base of industry is a business imperative. In addition, such partnerships relieve some budget pressures (DOE/NNSA cannot fully support the plant and human resource assets required to meet its mission obligations) and aid significantly in Laboratories' recruiting and retention program. These assertions have been confirmed by the many studies on how to improve the viability of the weapons laboratories to meet the nation's national security needs, especially for nuclear weapons. Finally, non-DOE/NNSA customers consistently provide feedback that they want to work with the Laboratories directly as partners, not "others" for whom work is done.

Partnerships with Non-Federal Entities (NFE) - The passage of the National Competitiveness Technology Transfer Act (NCTTA) in 1989 made technology transfer a mission of the Department of Energy (DOE) Government Owned Contractor Operated (GOCO) laboratories and facilities, permitted them to enter into Cooperative Research and Development Agreements (CRADA) with industry, Universities, and State & Local Governments, and allowed them to request title to Intellectual Property from DOE/NNSA in order to commercialize it. In addition, for many years, DOE/NNSA has permitted its GOCOs to perform work for NFE partnerships, but under strict DOE/NNSA contractual constraints. The ensuing years has seen DOE/NNSA and the Laboratories evolve the technology transfer process, add technology transfer mechanisms, and learn how vital these partnerships are to accomplishing the DOE/NNSA missions. Despite this progress, industry still finds it hard to do business with the DOE/NNSA Laboratories and Facilities because of bureaucratic processes, strict contractual language, and failure to adopt "best industry practices" where appropriate.

General Design Concepts

A new governance model for Technology Partnerships at DOE/NNSA Laboratories would be based on the following principles:

- Continued support for the success of DOE/NNSA missions.
- Carrying out the intent of relevant technology transfer legislation.
- DOE/NNSA's role would be one of insight rather than oversight and project by project review and approval.
- Laboratory would have responsibility, authority and accountability for technology partnership programs.

- Laboratory's flexibility to engage in partnerships that meet laboratory's and our partners' business objectives will be maximized.
- Benefits of the GOCO model will be maximized by allowing the M&O contractor to apply best industry practices.

Detailed Design

- DOE/NNSA continues to authorize general guidelines and performance expectations and holds Laboratories accountable for meeting performance expectations.
- Sandia would prototype this technology partnership governance initiative for DOE/NNSA.
- The technology partnership governance model will be closely aligned with the overall management governance model at Sandia.
- Approval authorities will be delegated to Sandia and implemented through formalized and robust internal approval authority, management review and self-assessment systems.
- DOE/NNSA insight will focus on validating that Sandia has management systems, programs, and processes in place to meet their performance objectives.
- Sandia will look for "best business practices" to improve it's execution of Non Federal Entity agreements and financial processes.

Current State Characteristics

- DOE/NNSA policies and requirements are promulgated through numerous DOE Orders, directives, manuals, and policy memoranda.
- Such policies and requirements are further interpreted by the local Site Office.
- The DOE/NNSA oversight, approval process, detailed prescriptive requirements and contractual language make it difficult to create partnerships with the speed and creativity required in today's environment.
- Through its current oversight role, the DOE and NNSA insert themselves as part of Laboratories' management review process on an agreement by agreement basis.

Future State Characteristics

- The Laboratories and facilities are given the authority to develop and approve the technology partnerships.
- The Laboratories and facilities have the agility to create the appropriate partnerships in a changing world, and accept the responsibility for results.
- There are reliable self-assessment metrics to measure success and identify opportunities for improvement.
- Laboratories (and DOE/NNSA) programs benefit from strategic technology partnerships and the access to best industry practices.

Potential Barriers:

- A new governance model requires a cultural shift for DOE/NNSA and the Laboratories. Cultural shifts typically take 3-5 years to establish and demonstrate success. This model

needs to be allowed to run, through successes and failures, long enough to achieve the necessary cultural shift. All parties need to be disciplined and tolerant so as to stay the course.

- DOE/NNSA personnel may perceive some of their oversight positions are at risk. Meaningful and value-added roles for those personnel need to be identified in this model.

B. Allow FFRDC to Participate in Requests for Proposals (RFPs)

FFRDC participation is limited to where their unique capabilities can improve the technical solution proposed and delivered to the government by industry. FFRDC participation in solicitations as a supporting team member, with an industry partner lead respondent, may provide the technical solution that results in the industry partner "winning" the competitive solicitation. Therefore, if FFRDCs are allowed to participate in solicitations, fairness of opportunity to access FFRDC capabilities must be maintained. This legislative proposal is especially important to meet the Department of Homeland Security's strategy to provide first responders with needed technologies, and to respond to DoD's transformation strategy to rapidly provide technologies to the war-fighter.

How to implement: Congress should request DoD lead an interagency team comprised of DoD, DHS, DOE and their FFRDCs to 1) review the technology transfer process, study the roadblocks that restrict FFRDCs from participating in the realization of national security products and services, and solicit input from industry and; 2) report back to Congress with recommended modifications to law/FAR that would enable more effective and rapid integration of FFRDC capabilities into national security products and services.

Background/Status: The focus of existing technology transfer and commercialization legislation has been the transfer of government-funded technology to US industry for commercial use. This has and continues to be effective. However, the transfer of Federally Funded Research and Development Center (FFRDC) technology to national security products procured by the federal government has not been adequately addressed. FFRDCs have been funded to conduct research, development and engineering programs for the DOE, DoD and other federal agencies, to create state of the art components and systems, including prototype development, and systems testing and certification of new technologies to meet government requirements. Billions of dollars have been spent researching, developing and validating the functionality and capabilities of these new and unique technologies to a point where they are ready or nearly ready for integration into national security products by industry. Next, the government will initiate a procurement for which this technology is ideally suited; at this point, the processes and procedures for transition to industry become problematic. The Federal Acquisition Regulation (FAR) prohibits FFRDC's from participating in requests for proposals. Although federal agencies can specify FFRDC participation in solicitations as Government Furnished Equipment/Services (GFE/S), this has been shown to be impractical, requiring an in-depth knowledge of FFRDC capabilities that federal agencies may not have, and pre-determination that the best technical solution is available in the FFRDCs, which federal agencies may be unwilling to mandate.

Impact: The government has invested considerable resources in R&D at FFRDCs. Although industry can access unique FFRDC capabilities/services after procurement award, the fundamental technical solutions and partnerships to be employed are defined as industry plans their response to government solicitations. The prohibition against FFRDCs participating in government acquisitions

and GFE/GFS limitations effectively excludes FFRDC capabilities and significantly inhibits the transfer of FFRDC developed R&D into national security products and services. More effective integration of FFRDC capabilities would save costs, speed technology introductions into programs, and combine the best R&D that industry and FFRDCs can produce. It is in the government's best interest that national security products and services predominately reflect industry solutions and that

Possible New Legislation under 50 USC Chapter 41, Subchapter V: NNSA Research for others in support of national security: Notwithstanding the limitations otherwise imposed by the Federal Acquisition Regulation, Economy Act, and research for others regulations of the Department of Energy, the Administrator shall have authority to enter into transactions with public agencies, private organizations, or individuals on terms the Administrator considers appropriate for the furtherance of basic, applied and advanced research functions in support of national security. This authority shall include the participation of a national security laboratory with one or more private organizations on a fairness-of-opportunity basis in responding to a solicitation or announcement under a program authorized by the Government to produce for the Government a national security product or service, where that product or service falls within the mission of the laboratory. A national security laboratory that participates in responding with private organizations to a solicitation or announcement described in this paragraph shall not be considered to be engaging in a competitive procedure and may use, among other authorities, cooperative research and development agreements provided for under section 12 of the Stevensen-Wydler Technology Innovation Act of 1980 (15 U.S.C. 3710a) as the instruments of participation in the solicitation or announcement. In developing procedures for carrying out the authority granted herein, the Administrator shall initiate a Pilot Program at one or more of the national security laboratories on or before July 1, 2009.

Path Forward for Lab Involvement

It is often the case that the procuring agency's needs are best served by a combination of services provided by an FFRDC and services competitively selected from industry. In these cases, the FAR and DOE regulations make it necessary for the procuring agency to specify that arrangement in their RFP. The government/application unique services can then be procured from the FFRDC and the remainder of the RFP executed as a competitive procurement. (Note: FFRDC's services can be obtained either by the agency through an Interagency Agreement with the FFRDC's sponsor or through an NFE agreement between the awardee and SNL post RFP award.)

In these instances, SNL is permitted to work with the procuring agency and the potential industry respondents to help define that specific FFRDC role that SNL will perform. This role can include all of the possible unique functions available at SNL.

Once the FFRDC/SNL role is defined, it should be written into the RFP. The FFRDC work is then excluded from the competitive procurement and the RFP can be issued to obtain the best competitive solution to the government from industry. With SNL's role defined in the RFP, SNL can assist, if requested by the procuring agency, in the evaluation of the competitive proposals without being in the position of evaluating SNL's contribution to the overall system solution.

In such an arrangement, SNL can provide all elements of technical information, relative to our specific assignment, to the industry respondents, as long as SNL provides the same information to all respondents and documents that fact.

The final issue is that the current policy has focused almost exclusively on technology transfer for commercial use and has not addressed technology transfer for national security end uses. This oversight and, in fact, the prohibition on this type of activity are major reasons that innovative R&D is not being effectively commercialized for defense needs. The laboratories have conducted research, development, prototyping, systems testing and certification of new technologies to meet a nation security need. Millions of dollars have been spent researching, developing and validating the functionality and capabilities of these new and unique technologies. Typically these technologies arrive at a point where they are ready for large-scale production by industry. The government may issue a Request for Proposal (RFP) to meet mission requirements for which this technology is ideally suited. At this point, the processes and procedures for transferring the technology to the defense industry become problematic. The Federal Acquisition Regulation specifically prohibits the laboratories from responding to RFPs, and although federal agencies can specify laboratory participation in RFPs as Government Furnished Equipment/Services, this has been shown to be unworkable. The acquiring agency would require either an in-depth knowledge of laboratory capabilities, which they typically do not have, or would pre-determine the technical solution, something that federal agencies are unwilling to mandate. As a result, the industry-laboratory collaboration necessary to efficiently transfer technology is virtually non-existent, resulting in increased cost and longer schedule to deliver cutting edge technologies. A policy change to allow national laboratories to partner with industry on national security procurements is required.

Meeting Agency Needs: Recently, several federal agencies have issued RPFs that contained language that encouraged industry to partner with FFRDCs in their responses. One RFP even called out SNL by name.

Appendix C: Detailed Discussion on Question 3: U.S. Competitiveness

(i) What alternate approaches to addressing U. S. competitiveness would you suggest DOE consider?

Sandia recommends that DOE follow U.S. competitiveness standards that are imposed under federal law rather than the existing more stringent DOE policy. This means applying the US Manufacturing requirement only on exclusive licenses and assignments of the contractor's intellectual property, and as a preferential consideration when partners and licensees are chosen at the exclusion of others. If this is not deemed feasible by DOE, Sandia recommends alternative Article XXII U.S. Competitiveness language that would postpone a perhaps premature assessment of compliance/non-compliance with the Article. See attachment X for more comprehensive response to question 3.

Background

The technology transfer program at DOE's GOCO laboratories was established at a time when the global dominance of US companies was faltering, domestic unemployment was rising, and US companies moved manufacturing operations offshore to remain competitive. Millions of federal dollars were applied to cooperative research projects to transfer advanced weapons technology to industry for commercial (dual) use. The funding was given to the laboratories and the Agency assumed an oversight role. When selecting partners for such joint research, statutes required the laboratories to give preferential consideration to entities that are likely to manufacture products in the United States. Similar in its intent, the Bayh-Dole Act created a substantial U.S. manufacture requirement for exclusive licensees of laboratory (contractor) inventions.

The Department of Energy adopted for its technology transfer program, Orders and Regulations that exceeded the statutory requirements, providing some insurance against criticism and further ensuring the program would have a positive impact the US economy and domestic manufacturing jobs. In particular, contractors (including Sandia) have been required to consider US manufacturing when choosing licensees even for nonexclusive licenses, an inherently non-preferential situation as the objective is to establish multiple licensees. Similarly, mandatory CRADA and license language applies a US manufacturing requirement to the contractor's nonexclusive licensees and, in CRADAs, to the industry-participant's sole inventions as well.

Today, the landscape is quite different but the requirements remain in place. Competition is still fierce but US companies have gained strength, addressing the global marketplace with global operations, and earmarked federal funding for technology transfer has essentially been eliminated. US companies still often find value in partnering with the national laboratories but typically must supply all of the funding for joint R&D.

Current policies that go beyond the statutory requirements now hinder technology transfer as many of the companies that helped build the strong US economy (and employ hundreds of thousands in the US) decline to participate rather than lose the flexibility and competitive edge gained from their global manufacturing capability. As a minimum, delays are experienced as such companies speculate about strategies for future product lines, supply chains, and geographic markets and judge the

potential risk of even inadvertent compliance violations. Furthermore, some foreign companies (notably automobile, e.g Toyota) have greater US manufacturing and employment numbers than those companies considered traditional "US" automobile companies.

If this is not deemed feasible by DOE, Sandia recommends the following:

> DOE/HQs should "pre-approve" the following optional language (or something similar) for regular and Umbrella CRADAs:

Suggested Optional language for "Standard" CRADA:

> **ARTICLE XXII. U.S. COMPETITIVENESS**
>
> C. CRADA Participant agrees to Article XXII. U.S. Competitiveness. In the future, however, should the CRADA Participant anticipate a change of circumstances where it is unclear that CRADA Participant could comply with the meaning and/or intent of this Article, either in part or in whole, the Participant shall inform Sandia and DOE/NNSA and request further guidance.

If it is determined that these changed circumstances preclude compliance with the meaning and/or intent of this Article, the CRADA Participant may submit a U.S. Net Economic Benefit Statement to DOE/NNSA for further consideration.

Suggested Optional language for Umbrella CRADAs:

> **ARTICLE XXII. U.S. COMPETITIVENESS**
>
> C. CRADA Participant agrees to Article XXII. U.S. Competitiveness. In the future, however, should the CRADA Participant anticipate a PTS where it is unclear that said Participant could comply with the meaning and/or intent of this Article either in part or in whole, the Participant shall inform Sandia and DOE/NNSA and request further guidance.

If it is determined that a future PTS does not comply with the meaning and/or intent of this Article, the CRADA Participant may submit a U.S. Net Economic Benefit Statement to DOE/NNSA for further consideration.

Further, recommend that this alternate language **be added to DOE Manual 480.1** "the CRADA Manual" when it is updated. We've found that sending Partners to the "model CRADA in the appendix of the Manual gives them a good idea about what HQs will accept or not.

(ii) How would these alternatives help transactions/interface with DOE facilities? (iii) Would any of these three be a useful approach to industry to better streamline the process of the U. S. competitiveness negotiation process?

Basically, this pre-approved optional language would postpone a perhaps, premature assessment of compliance/non-compliance with the Article and permit the Participant to more readily agree to the

other US Competiveness provisions. If future circumstances did arise which would preclude full compliance, the Participant could then submit a net benefits statement to DOE or DOE/NNSA.

Comments on DOE/HQs suggestions:

For example, one possible way to streamline this process is to forego a legally binding commitment from any partner that has a "substantial presence" in the U.S.

This could be accomplished in a number of ways, such as where a partner indicates in writing that it or its intended suppliers will make best efforts to manufacture products resulting from the agreement in the U.S., and provides factually supported statements that it satisfies at least two of the following three factors:

(1) The partner has or plans to have a manufacturing facility in the U.S. where its products resulting from the agreement will be manufactured;

(2) more than half of the partner's assets are located in the U.S. or it derives more than half of its revenue or profits from the U.S.; and (3) significant design and development (other than the CRADA) will be done in the U.S. in an existing U.S. research facility.

Another alternative would be to limit the legally binding commitment for substantially manufacturing in the U.S. to a specified number of years, e.g., 5 years. That would give the U.S. manufacturing facility a head start on sales (and setting up supply chains) before manufacturing might be moved offshore, as well provide some certain benefit to U.S. competitiveness.

(iv) Does DOE's current implementation of U. S. competitiveness have a negative impact on technology transfer? How?

In most instances, U.S. Competitiveness by itself is not a deal breaker, but the current wording is fairly rigid and attempts to force Partners with substantial overseas holdings (e.g. US multinationals or foreign companies with a substantial US presence) into a premature and unnecessary determinations, and in some instances prolongs or distracts from the discussion of other Terms and Conditions.

(v) Would approaches taken by other Federal Agencies with regard to U. S. competitiveness to CRADAs be useful? (vi) If so, what are those approaches and how are they implemented?

What is being suggested by DOE/HQs often forms the gist of the Net Benefits Statement anyway and is routinely provided by Sandia as guidance to our Partners in preparing said Statement. Again, we would recommend that appropriate language with these "alternatives" be placed in the CRADA manual for all to see and consider.