Negotiating and Managing University/Industry Collaborative Space Science: An Academic Perspective

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ACI Satellite and Space Export Controls Conference
Washington, DC
October 2nd, 2009
If Industry is from Venus, Academia is from......A Different Galaxy

• Not just conflicting goals and objectives, but different cultures
  ▫ Universities do not operate the same way as industry, and industry expectations should be calibrated accordingly
  ▫ Universities have a strong culture of openness which they see as fundamental to their operation
  ▫ Most universities maintain policies that prohibit secrecy or confidentiality of research results
  ▫ Many universities do not allow for segregated facilities and identification procedures based on citizenship or nationality
  ▫ “National Security” Restrictions Offensive to Some Academics
    • Nat. Sec. objectives seen as conflicting with research objectives
    • Grad students as their children – equal treatment is paramount
Export Controls Are New To Most Universities - Why?

• Emerging security and immigration concerns post 9/11
  ▫ Sponsored research contains progressively greater restrictions on technology transfer to foreign persons
    • Not just Federal Contracts but Corporate Grants/Gifts as well

• March 2004 DOC Inspector General report citing perceived deemed export loopholes at universities
  ▫ Grabs the attention of University Presidents and Provosts
  ▫ Generates over 300 comments against resulting proposed rule

• Only recently have Universities dedicated specific persons to cover export compliance and outreach
  ▫ Still Widespread Lack of Awareness and Expertise in Academia, resulting in inability to “Speak a Common Language”
University/Industry Collaborations and Export Control – Emerging Themes

• Significant Increases in US Defense Budget =
  • Increased Funding to Industrial Primes
  • More Export Control “Flow-Downs” to Universities
  • Greater Emphasis on “Applied” Research
    • Pressures Fundamental Research Exclusion (FRE)

• Shift in Focus of Export Controls from Hardware to Technology
  • Creates “Deemed Export” Issue for Universities
    • Corporate Misunderstanding of “Use Technology”
    • University Misunderstanding of “Fundamental Research”
University/Industry Collaborations and Export Control - Emerging Themes (2)

- Also Heightened Industrial Focus on Deemed Exports and Use of NDAs w/Export Clauses
  - Agreement terms that anticipate university fundamental research becoming export controlled “developmental” research
- Increased Prevalence of SBIRs/STTRs
  - Commercialization Requirements
    - Dilemma: How do Universities Partner in Phase II and Phase III SBIR/STTR Program Elements?
- Need for Universities to Invoke Termination Provisions if Policies Jeopardized
  - Possible Costs to Doctoral Dissertations
Steps That Would Facilitate Industry/University Space Science Collaboration

• Universities understanding that:
  ▫ Elimination of Contract Terms that Limit Publication or Foreign National Access to Research Results DOESN’T MEAN IT’S FUNDAMENTAL RESEARCH!

• Universities understanding that:
  ▫ The FRE only applies to information, not tangible items

• Universities understanding that:
  ▫ Acceptance of Industry NDA’s do not destroy their ability to characterize their work as fundamental research excluded from export control
    • It is the openness of the results of the research that characterize the work as qualifying as “Public Domain” per Part 120.11
Steps That Would Facilitate Industry/University Space Science Collaboration (2)

• Universities understanding that:
  ▫ Procedures can be put into place to safeguard the FRE while permitting work with NDAs or export control terms
    • Notification and review by university official before acceptance of “export control-listed” proprietary or confidential information
    • EAR99 technology and items do not pose deemed export issues
    • Universities should not be scared by language that references requirement to abide by export laws and regulations
Steps That Would Facilitate Industry/University Space Science Collaboration (3)

• **Industry understanding that:**
  ▫ **The FAR and DFARS define “applied research” as advancing the “state of the art”**
  · Fabrication of *proof-of-concept devices* and *prototypes* serve to advance the state of the art and are essential to university space science research
    · Universities regard this activity as falling within the FRE
    · NASA has clarified that fully-functional, field-deployable systems are not covered by the FRE, and Universities understand that

• **Industry understanding that:**
  ▫ Many university openness policies are not violated if collaborative, but regulated work, is conducted off-campus
    · Suggest this possibility in negotiations
Steps That Would Facilitate Industry/University Space Science Collaboration (4)

- Industry understanding that:
  - ITAR-related fundamental space science research does not have to be published before foreign nationals engage in the conduct of such research
    - Fundamental research could not be undertaken at universities if this were the case
    - Univ. of Michigan Advisory Opinion from State on student-run FEA Cathode Technology Project supports this assertion
Steps That Would Facilitate Industry/University Space Science Collaboration (5)

• Industry understanding that:
  ▫ Universities will want to have industry partners identify and mark all ITAR technical data and defense articles before transfer, similar to standard industry practice for Confidential Information
    • Will create a “comfort zone” for the university partner

• US Government Agencies understanding that:
  ▫ Distribution statements that limit circulation of research results from Contracted Fundamental Research are inherently inconsistent with the public domain intent of NSDD-189, the EAR and ITAR, and the DoD Contracted Fundamental Research Memo from John Young of 2008
Looking Into the Future

• History has shown that University/Industry ITAR-related collaborations can be successful, with outstanding benefits for science
  ▫ Gravity Probe-B
  ▫ NASA’s Helioseismic and Magnetic Imager (HMI)
  ▫ Gamma Ray Large Area Telescope (GLAST/FERMI)
• Negotiating such collaborations take extra time, energy, and creative solutions
  ▫ If academia and industry are committed to finding a middle-ground and enter into negotiations with trust and an open mind, agreements that meet both parties’ needs are achievable with hard work and patience