Export Controls: University and Industry Collaborations

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## Export Controls Landscape: Key Issues to Review

- **Jurisdiction:** What export controls regulations apply to the project?
  - ITAR, EAR, DOE, NRC, OFAC

- **Exclusions:** Do any exclusions from export controls apply?
  - Fundamental Research
  - Educational Information
  - Public domain / publicly available

- **Contract/Grant:** Are there any potentially problematic provisions?
  - Restrictions on foreign national participation
  - Restrictions on publication
Proprietary Data: Will the sponsor/partner provide any proprietary information? Any controlled materials?

Conduct of research: Does this involve the transfer of any export-controlled information?
- “Use” technology under the EAR: six requirements

Location: Where will project activities take place? Any travel? Any export of hardware?
For universities, export controls mean limits on
- Participation of foreign nationals
- Access to facilities, equipment, materials, information, etc.
- Dissemination of findings
- Participation of students

*Note: All are counter to university culture and are not entered into lightly, so negotiation time may be significantly increased.*

University approaches
- Fundamental research only – does NOT eliminate EC issues
- Willing to accept restrictions – NOT all faculty
University Export Review Perspective

- Initial Review if Industry Agreements by OSP
- “Red Flags” Referred for Export Assessment
  - Technical Review
  - Consultation with Principal Investigator
    - Personnel evaluation
    - License assessment
    - Feasibility assessment
  - Engagement with Sponsor Technical point-of-contact
- Negotiation by OSP Based on Export Assessment Results
- Re-Evaluation by Export Control
  - Obtain any required internal permissions
  - Technology Control Plan development
- Finalization of Agreement by OSP
- Approval to Initiate Research Program AFTER
  - Training completion
  - License acquisition
University Export Review Perspective

- **Identifying Issues in Industry Agreements**
  - Incoming information or materials
  - Foreign Involvement
  - Deliverables other publicly available information
  - Specific Terms and conditions
  - Equipment, software and facilities needed to conduct the work

- **Importance of Teamwork**
  - Faculty
  - Office of Sponsored Programs
  - Procurement Services
  - Sponsor
  - Subcontractors
Industry Export Review Perspective

- First analysis for export control requirements on research projects is the same as any other export transaction
  - Jurisdiction/Classification Determination
  - Draw the box around the export \textit{and import} (Scope)
    - New trend toward tri-lateral (or more) foreign involvement
  - Licensing Strategy for full project lifecycle
  - Foreign National Requirements
  - Internal Control Plans/Site Requirements
- However, research collaboration requires additional considerations
Specific additional considerations for research activities in collaborative environments

- Determination of “applied” versus “fundamental”
  - What’s the color of the money?
  - Whose IP?
  - Fully restricted? Partial publication?
  - Any “hybrid” arrangements require squeaky clean due diligence and intensive monitoring

- Intellectual Property ownership and control issues
- Look EVERYWHERE in ALL pertinent agreements

Increasing global collaboration increases complexity of compliance and monitoring requirements
Hypothetical Case Study #1

- An aerospace company desires to collaborate with two universities, one located in Australia and one in the U.S. on the development of new materials for aerospace composites
  - Both the product and the technology are sensitive from the standpoint of U.S. and Australian controls (ITAR and DGSL)
  - Some technology is of Australian origin, some of U.S. origin
  - Two of the companies business units involved - one in AUS and one in US
  - Each will manage their local research partners, but full team collaboration expected
  - Partial funding received for Australian part of research from CSIRO, remainder of funding is internal U.S. company R&D
Hypothetical Case Study #1

- What export control considerations are there in this scenario?
- What is the impact of funding from Australian government?
- How are the two countries’ export controls in conflict? Does one trump the other?
- Who is responsible for overall compliance management? Who determines what compliance is in each country?
- How do we treat two members of the Australian team who originate from U.S. proscribed countries without violating Australian human rights obligations?
Dr. Atomic, a professor in the nuclear engineering department at the University of Subatomic, submits a proposal to a DOE funded national laboratory to study non-isothermal turbulent mixing in high temperature reactors.

The project includes a collaboration with Company A who has extensive knowledge and lab space devoted to research and development in the nuclear field.

The collaboration with Company A describes how University students, some of whom are from China and Iran, will visit Company A labs to perform some experiments using Company A equipment.

The national lab issued a determination to the University that the work plan does not contain any controlled technical information/data and that the work is considered fundamental research.

The contract terms do not contain any unnecessary restrictions.

Dr. Atomic feels that since the national laboratory issued a determination of “fundamental research”, there won’t be any issues with Company A, including on-site research with any of his students. What concerns would you raise with Dr. Atomic?
HYPOTHETICAL #1

Issue 1: What export regulations apply to this effort, and does fundamental research apply to all of the work that will take place, both at the University and at Company A?

- No restrictions on publication or participation
- National Lab determination of Fundamental Research

BUT

- Does FRE apply to companies?
- If so, does it override other possible restrictions on equipment or other items governed by separate governing bodies (State, NRC etc.)
HYPOTHETICAL #1

Issue 2: Company has stated concerns with on-site student work and has requested a separate clearance letter from the national lab and DOE for student participation. Has also requested indemnification covering export controls in contract with University.

- National lab/DOE would not issue a determination for the company, nor would the University.

Possible solutions:
- Limit student exposure when at Company.
- Require students to be permanent residents or US citizens.
- Company to discuss situation with NRC representative.
HYPOTHETICAL #1

- Issue 3: Noting student restrictions at the company, will this affect any resulting information that will come from the Company?
  - Students will use the equipment for its intended purpose.
  - Students will not be exposed to any use technology.
  - Initial data will be fundamental.

Any other advice for Dr. Atomic?
Ima Genius, a professor of systems engineering at Top Flight University (TFU), submits a research proposal to Whiz Bang Inc. to fund the adaptation of an inexpensive, upgradeable, plug-and-play, dynamically reconfigurable sensor and control system to an aerial platform.

The sensor system was built by TFU using commercial-off-the-shelf components as part of an earlier fundamental research project.

Whiz Bang will provide TFU with proprietary software, executable and source code which is essential to the performance of the statement of work, under a separate license agreement for academic and research use.

Students in Professor Genius’s capstone course will perform the research.

The class is open to all academically qualified students.

The contract terms do not include any publication or foreign national restrictions.
HYPOTHETICAL #2

Issue 1: What export controls, if any, apply to the proposed research activities and results?

- Do the same controls apply to both or are they different?
- Does it matter that the research will be conducted as part of a university course?
- Can foreign students in the US fully participate in the research efforts?
- What about students who are located outside the US?
Issue 2: Whiz Bang’s license agreement to TFU states that “Licensee understands that any export of the Software may require an export license and Licensee assumes full responsibility for obtaining such license.”

- Is the presence of this clause in the license agreement problematic?
- Does the educational information exclusion apply to the release of proprietary source code to students enrolled in the class?
- When TFU asks for the specific control status of the software Whiz Bang confirms that it is EAR99. Is there a situation in which a license would be required for the release of EAR99 source code to foreign national students?
HYPOTHETICAL #3

- A faculty member is a participant on a large DARPA funded project seeking to develop new super-computers capable of performance 100 times faster than the current supercomputer technology.
- The university is a subcontractor to a computer chip design company, and that company will be providing confidential information to the faculty member. The company has requested the University sign an NDA for the project.
- The faculty member wishes to fund a graduate student from India on the project. Additionally, he wishes to use a South Korean national post-doctoral fellow on the project.
- The contract for the project includes no publication restrictions for University participants or any specific requirement for approval of foreign national participants. However, there is language stating that the technologies are export-controlled and that the university has an obligation to obey all export control regulations.

What are the export control considerations for the project?
Step 1: Evaluate if fundamental research exemption applies and if so, are the limitations to its use?

There are no publication restrictions or restrictions on who may participate in the research. The research is being conducted at an accredited University in the United States. This meets the definition of fundamental research. However, the faculty member will receive proprietary information related to the project from the company. This information may not be viewed as fundamental research, as there is no intent to place it in the public domain. This information is export controlled.

Step 2: Determine the regulatory authority

The project is funded by DARPA, but the research clearly has both civilian and military applications. Submit to the Department of State for a formal commodity jurisdiction (CJ) determination as to whether the project is subject to the ITAR or the EAR. Assume the CJ determination is that this is dual-use technology subject to the EAR.

Step 3: Determine the ECCN

The ECCN for the research is 4E001. The applicable controls are NS column 1, MT column 1, AT column 1. However, as the work at the university qualifies as fundamental research and only the faculty member is receiving proprietary information, licensing will not be required.
HYPOTHETICAL #3

Step 4: Develop technology control plan

Even though licenses are not required, a technology control plan should be used. The faculty member needs to provide information as to how the proprietary information will be isolated from the rest of the project to prevent inadvertent export to the foreign national student and post-doc.

Step 5: Screen project personnel

Because the technology is controlled, project personnel should be screened.

Step 6: Provide training on export control obligations

Step 7: Maintain records and audit.
The faculty member wishes to share information subject to the NDA with the foreign national students. Does this change the analysis?

In this case, the students will receive export-controlled information, and licenses are potentially required unless there is an applicable exception.

First, look at the reasons for control:

<table>
<thead>
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<th>Country</th>
<th>NS Col 1</th>
<th>MT Col 1</th>
<th>NP</th>
<th>AT Col 1</th>
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<tbody>
<tr>
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<td>S. Korea</td>
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</tbody>
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HYPOTHETICAL #3

HYPOTHETICAL #2.5

Applicable exceptions are:

**TSR** if adjusted peak performance < 0.5 WT

**APP** to specific countries (see 740.7)

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<thead>
<tr>
<th>Country</th>
<th>Computer Tier</th>
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<tbody>
<tr>
<td>India</td>
<td>3</td>
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<tr>
<td>S. Korea</td>
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**STA** with similar restrictions on performance.

Because the purpose of the research is to enhance APP well beyond currently available limits, none of these exceptions will apply.

Licenses for deemed exports have additional requirements. Check the BIS guidance when applying for license, as deemed exports licenses require different information than commodity export licenses.