

# ***Current Developments in Export Control Law***

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# ITAR and EAR: Current Issues

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# Topics to be covered

- ITAR and EAR basics
- Current topics: Export Control Reform
- Tips, tricks, and cautionary tales

# ITAR

- Items Listed on the U.S. Munitions List
- State Department Directorate of Defense Trade Controls
- Controls cover equipment, software, services, and technical data



**All items controlled to all destinations**

# EAR

- Items listed on the Commerce Control List
- Commerce Department Bureau of Industry & Security
- Controls cover equipment, software, and technology



**Product x Destination = License Requirement**

# Sanctions and embargoes

- Regulator: Office of Foreign Assets Control (OFAC)
- Regulatory System:
  - Comprehensive sanctions (Cuba, Iran, Sudan)
  - Targeted sanctions (e.g., Zimbabwe)
  - List-based sanctions: SDNs



# Export Control Reform

- 2009 announcement by President Obama
- “Higher walls around fewer items”
- Migration of many USML items to the CCL
- Agencies include State, Commerce, DOE
- Future state: “four unities”
  - Single control list
  - Single licensing agency
  - Unified IT system
  - Enforcement coordination

# Export Control Reform: what's new?

- Migration from USML to CCL nearly complete
- Definition of “export”: DDTC punts on encryption
- “Simplified” definition of Fundamental Research



# Fundamental research

- “Fundamental research” means research in science, engineering, or mathematics, the results of which ordinarily are published and shared broadly within the research community, and for which the researchers have not accepted restrictions for proprietary or national security reasons.
  - 81 Fed. Reg. 35586 (June 3, 2016)

# Fundamental research

- Fundamental research is not export-controlled
  - Deemed export restrictions do not apply
  - Does not require license for transfer to foreign nationals
- Similar definitions in EAR and ITAR
- Many exceptions to the rule

# Fundamental research

- Restricted or proprietary research may not qualify
  - Proprietary restrictions on research results
  - National security – specific export controls
- Information transfer from sponsor to university researcher may be restricted
  - If some or all information not to be published
- Certain types of prepublication review allowed
  - To protect proprietary information, patent rights
  - Pre-publication review

# Troublesome contract clauses

- The loss of “fundamental research” exemption occurs through clauses in contracts, grants, awards
- Review research agreements carefully
- Hidden pitfalls abound
  - “Flow-down” of government restrictions
  - Vague or cryptic statements concerning export controls or publication
  - Consortium agreements, side agreements, letters to faculty

# Tips, tricks, and cautionary tales

1. Applicability of fundamental research abroad
2. FRE does not cover exports of goods
3. Traveling with laptops: many risks
  - controlled data
  - controlled laptop
  - theft risk
  - foreign country laws
4. Denied parties screening – foreign universities
5. Foreign employees: Form 129

# Tips, cont'd

5. Cloud computing pitfalls
6. Participation in foreign conference
7. Foreign research sponsor
8. Government research sponsor
9. Collaborative research agreements
10. Export of defense services

Thank you.

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PRESENTATION TO THE  
DEPARTMENT OF ENERGY  
CONTRACTOR ATTORNEYS' ASSOCIATION



DEVELOPMENTS CONCERNING DOE'S RULE  
REGARDING ASSISTANCE TO  
FOREIGN ATOMIC ENERGY PROGRAMS;  
NRC'S EXPORT REGULATIONS AND U.S. AGREEMENTS  
FOR COOPERATION CONCERNING PEACEFUL  
NUCLEAR COMMERCE

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# Objectives of this Presentation

- Provide a concise overview of Department of Energy's (DOE's) Part 810 rule as amended by DOE's final rule that took effect on March 25, 2015
- Offer some observations concerning DOE's implementation of its Part 810 rule, as amended by its recent final rule
- Summarize key developments concerning the NRC's export-import rules (10 CFR Part 110) and U.S. Agreements for Peaceful Nuclear Cooperation pursuant to section 123 of the Atomic Energy Act
- Identify DOE contractor activities that are expressly excluded from the Part 810 requirements

# When Several Agencies Have Jurisdiction: Navigating the Regulatory Maze For Nuclear Exports

- Examples of Multiple U.S. Agency Jurisdiction
  - DOE's Part 810 Rules; DOC Export Rules; DOS International Traffic in Arms Rules (ITAR); Nuclear Regulatory Commission's (NRC) Part 110 Export-Import Rules



# Scope of DOE's Rules Regarding Assistance to Foreign Atomic Energy Activities (10 CFR Part 810)

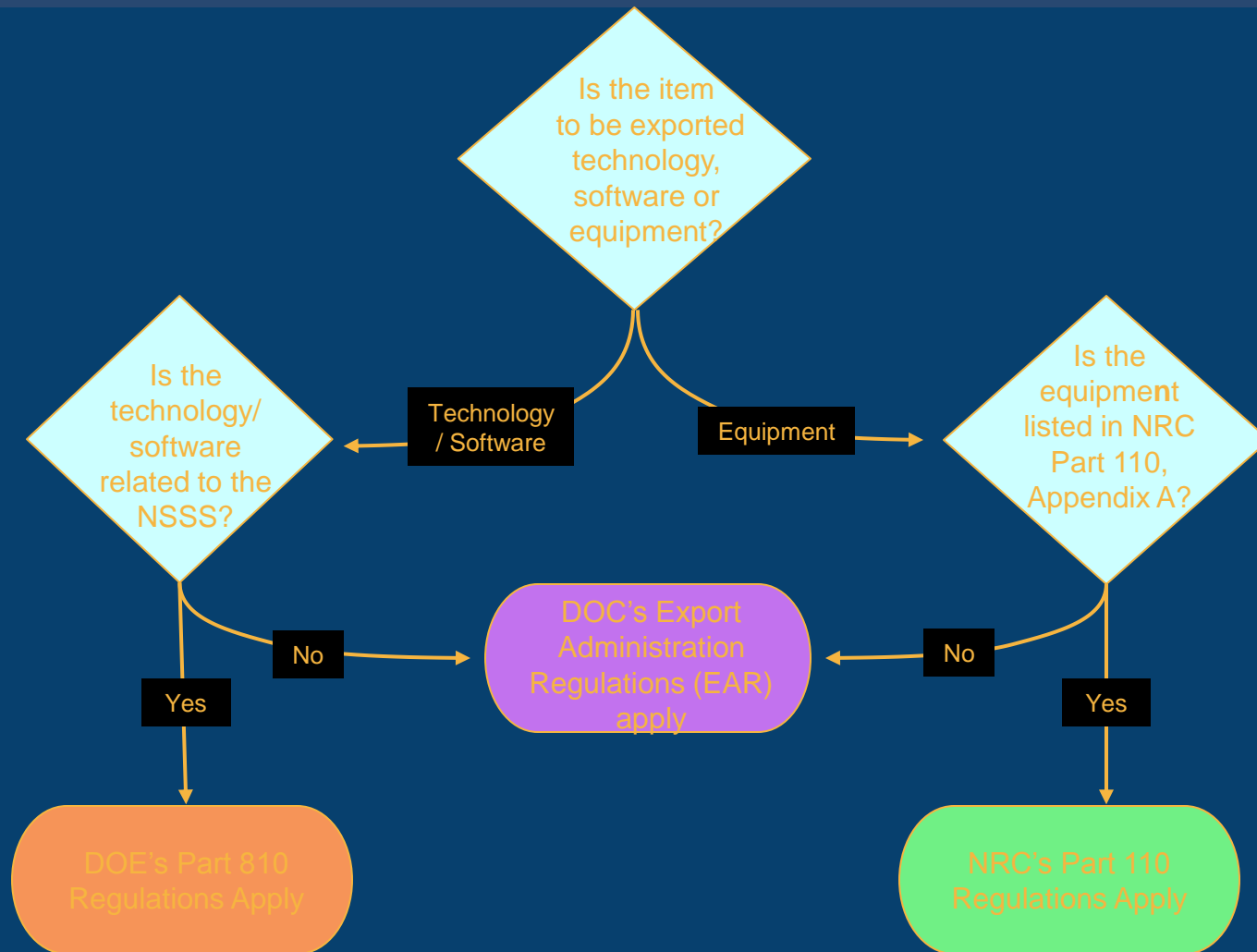
- Part 810 implements Sec. 57 b. of the Atomic Energy Act (AEA)
- Sec. 57 b.: Unlawful for any person to directly or indirectly engage in the production of any special nuclear material [SNM] outside of the United States except:
  - “Upon authorization by the Secretary of Energy after a determination that such activity **will not be inimical** to the interest of the United States.”
  - “as specifically authorized under an agreement for cooperation made pursuant to section 123, including a specific authorization in a subsequent arrangement under section 131 of this Act.”

# Part 810 Applicability

- Nuclear Fuel Cycle Activities
  - Direct production of special nuclear material
- Commercial Nuclear Reactors
  - Subject to regulations because of plutonium production



# Determining U.S. Government Jurisdiction



# Examples of Part 810's Applicability to DOE Contractors

- Where contractors are acting directly on behalf of DOE, Part 810 is not applicable to them
  - As defined in § 810.3, “person” means . . . (3) Any group, government agency other than DOE, or any State or political entity within a State.”
- Applicability of Part 810 to DOE contractor’s “work for others”
  - In providing services pursuant to a “work for others” agreement, DOE contractors are not acting on behalf of DOE
  - Therefore, DOE contractors are not exempted from Part 810 with respect to their “work for others” activities

# Availability of DOE Interpretations of Part 810

- 10 CFR § 810.5 establishes a process by which DOE's office of Nonproliferation and Arms Control will respond to requests for its advice on the applicability of Part 810 to proposed activities and the availability of a general authorization
- Section 810.5 also provides for binding written determinations by the DOE General Counsel
  - The General Counsel has rarely (if ever) issued binding written determinations, pursuant to section 810.5
- As revised by DOE's 2015 Final Rule, § 810.5 provides that DOE "may periodically publish abstracts of general or specific authorizations that may be of general interest"

# Export compliance procedures

- **Corporate Export Control Policies and Technology Control Plans: one size doesn't fit all**
  - Reactor vendors and component suppliers – extent of overseas activities, key markets, Part 810 v. Commerce Department's EAR jurisdiction
  - Architect-engineers, technical consultants and other engineering service providers – types of services, markets
  - Utilities – operator of large nuclear fleet versus one or two reactors
  - Nuclear fuel cycle facility operators, companies seeking to develop advanced reactors – specific issues related to Sensitive Nuclear Technology, Restricted Data, etc.
  - Companies providing outage services – specifically identified in 2015 DOE Final Rule



# DOE General and Specific Authorizations Pursuant to Part 810

- Process for obtaining a specific authorization for assistance to Foreign Atomic Energy Programs:
  - Preparation and submission of application to DOE
  - DOE and Interagency review of the application
  - Recipient country assurances related to non-proliferation
  - Transaction-specific finding by Secretary of Energy on inimicality
- Generally authorized assistance
  - Requires reporting by U.S. person
  - Available for most nuclear power plant assistance in generally authorized countries
- Specifically Authorized Activities
  - The Authorization issued by the Secretary of Energy will specify reporting obligations and other conditions regarding use of the authorization

# DOE's 2015 Revisions to Part 810

- DOE's Initial notice of proposed rulemaking (NOPR)
  - Published September 2011
  - Meant to address concerns about outdated aspects of Part 810
  - Provoked considerable adverse public comments
- DOE's Supplemental notice of proposed rulemaking (SNOPR)
  - Published August 2, 2013
  - Took into account industry comments on NOPR
  - DOE revised the NOPR's proposed amendments to Part 810
- DOE's Issued final rule that revised Part 810 Supplemental notice of proposed rulemaking (SNOPR)
  - Published in Federal Register on February 23, 2015
  - Effective on March 25, 2015

# DOE's Explanation of Key Changes to 10 CFR Part 810: Destination Classification

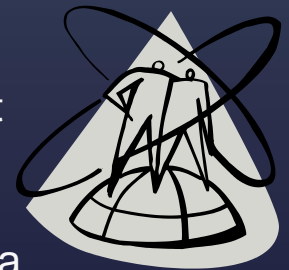
- Before DOE's final rule to amend Part 810 took effect (on March 25, 2015), DOE's Part 810 regulation identified destinations requiring specific authorization; others are generally authorized
- DOE's new Final Rule identifies generally authorized destinations; others require specific authorization
- DOE claimed, in a public meeting, that the Final Rule would have modest adverse impacts on the U.S. Nuclear industry
  - "44 major nuclear trading partners would remain generally authorized
  - 73 destinations presenting proliferation issues would continue to require specific authorization
  - Russia, China, and India would continue to require specific authorization
  - Certain projects in Mexico and Chile would continue to be authorized"

# DOE's Final Rule Resulted in a Classification Change for 80 Destinations

- Key basis for general authorization classification: 123 Agreement
- Under DOE's Final Rule, Kazakhstan, Ukraine, UAE are now generally authorized destinations
  - "123 Agreements in place
  - Countries have dynamic nuclear markets"
- "A DOE Specific authorization would be required for 77 countries with:
  - Little or no nuclear trade
  - No 123 Agreement
  - No experience managing proliferation issues"

# Recent Developments Concerning: U.S. Authorization of Technology Transfers

- AEA Section 57b restricts U.S. persons' assistance to foreign "atomic energy" programs
  - requires that any transfers of U.S. technology or provision of U.S. assistance to foreign nuclear energy programs be authorized either (1) pursuant to a 123 Agreement or a "subsequent arrangement" pursuant to Section 131 of the AEA; or (2) by the Secretary of Energy (under DOE's regulations at 10 CFR Part 810)
- DOE's recently relied on AEA Section 57(b)(1) to authorize technology transfer to China
  - December 18, 2013: DOE issued a notice of a proposed subsequent arrangement to provide authorization, pursuant to AEA section 57b(1), for transfers of Traveling Wave Reactor (TWR) technology to China pursuant to an Implementing Arrangement to the U.S.-China 123 Agreement



# Part 810 Specific Authorization Requirement for Export Assistance Involving Sensitive Nuclear Technology

- DOE's 2015 Final Rule defines "sensitive nuclear technology" (SNT) as "any information . . . which is not available to the public . . . and which is important to the design, construction, fabrication, operation, or maintenance of a uranium enrichment or nuclear fuel reprocessing facility or facility for the production of heavy water but shall not include Restricted Data. . . ."
- § 810.7 (b) requires that a person obtain a DOE specific authorization before "providing or transferring sensitive nuclear technology to any foreign country or entity"

# Atomic Energy Act Requirements Regarding Export of Sensitive Nuclear Technology

- DOE's 2015 Final Rule (§ 810.9) recognizes that “the requirements of sections 127 and 128 of the Atomic Energy Act and of any applicable U.S. international commitments must also be met,” if the proposed activity involves the export of sensitive nuclear technology (SNT)
- A suitable U.S. agreement with the recipient country is a prerequisite to the export of SNT
  - The U.S. has an Agreement for Cooperation with Australia that permits transfer of SNT (and RD) regarding the Silex enrichment technology
  - U.S. agreements with Canada and the Republic of Korea provide for the transfer of certain types of SNT

# DOE Contractors' Work for Others that May Involve an Export of SNT

- If DOE contractors desire to assist foreign entities, under work for others agreements, with research and analysis involving SNT, they must obtain a DOE specific authorization before engaging in such work
- DOE has very rarely issued specific authorizations for export of SNT
  - DOE issued a specific authorization for the transfer to Australian entities of Silex technology categorized as SNT
- In most instances, DOE contractors engaged in work for others will be unable to provide assistance to foreign entities that involves SNT



# The 2015 Final Rule's Definition of "Fundamental Research"

- The Final Rule added a definition of "fundamental research," which is exempted from DOE's Part 810 requirements: "Fundamental research means basic and applied research in science and engineering, the results of which ordinarily are published and shared broadly within the scientific community, as distinguished from proprietary research and from industrial development, design, production and product utilization. . . ."
- DOE refused to accept requests by NEI and others that DOE expand the definition of "fundamental research" to include "applied research and development at universities."
  - DOE explained that "applied research crosses the boundary from theoretical scientific inquiry to potential reactor specific applications" and thus will not be generally authorized

# Nuclear Reactor Equipment Under NRC's Export Licensing Jurisdiction

“Illustrative List” of Such Equipment is at Appendix A to 10 CFR Part 110

- Reactor pressure vessels
- On-line (e.g., CANDU) reactor fuel charging and discharging machines
- Complete reactor control rod systems
- Reactor primary coolant pumps or circulators
- Reactor pressure tubes
- Zirconium tubes
- Reactor internals
- Reactor control rod drive mechanisms
- Heat exchangers
- External thermal shield
- Any other components especially designed or prepared for use in a nuclear reactor or in any of the components described in Appendix A

# NRC general license (10 CFR Part 110.26)

- Covers export, to the following 35 countries of reactor pressure tubes, zirconium tubes, reactor internals, reactor control rod drive mechanisms, and other components specifically designed for nuclear reactors to

- Austria
- Belgium
- Bulgaria
- Canada
- Cyprus
- Czech Republic
- Denmark
- Estonia
- Finland
- France
- Germany
- Greece
- Hungary
- Indonesia
- Ireland
- Italy
- Japan
- Latvia
- Lithuania
- Luxembourg
- Malta
- Netherlands
- New Zealand
- Philippines
- Portland
- Portugal
- Republic of Korea
- Romania
- Slovak Republic
- Slovenia
- Spain
- Sweden
- Switzerland
- Taiwan
- United Kingdom

# NRC's Criteria for Export of Reactors/Major Reactor Components and Source/Special Nuclear Material

- A specific NRC license is required to export:
  - A complete Nuclear Steam Supply System (NSSS), reactor pressure vessels, on-line fuel charging and discharging machines, complete reactor control rod systems, and reactor primary coolant pumps [These items are listed in 10 CFR Part 110, App. A, Sections 1-4]
  - Source and special nuclear material (except for small generally authorized amounts)
    - NRC specific license is required to export natural or enriched uranium for processing
  - A specific NRC license is also required to export reactor components listed in sections 5 through 11 of Appendix A to Part 110, unless the export falls within the General License at section 110.26

# Criteria for NRC's Review of License Applications for Export of Source and Special Nuclear Material and NSSS (and Major NSSS Components)

- Applicable NRC Criteria
  - IAEA Safeguards
  - No Use for Nuclear Explosive Devices
  - Adequate Physical Security Measures
  - U.S. Controls on Retransfers
  - No Reprocessing Without U.S. Consent
- Agreement for Cooperation between the U.S. and the Recipient Country is Generally the Only Means of Satisfying the NRC's Specific Export Criteria
- The Ultimate Export Criterion is whether the Export is Inimical to U.S. Common Defense and Security

# NRC “Inimicality” Export Criterion

- Recent NRC Application of “Inimicality” standard in export licensing proceedings
  - The NRC’s ultimate licensing criterion is whether the proposed export will be “inimical to the common defense and security of the United States”
- The NRC’s “inimicality” finding is in addition to the NRC’s finding whether the recipient country will satisfy the NRC’s specific export criteria, which are based on the Atomic Energy Act
- The “NRC may properly rely on” the “Executive Branch’s non-inimicality determinations involving] strategic judgments and foreign policy and national security expertise.” [In the matter of U.S. Department of Energy (Plutonium Export License) CLI-04-17, 59 NRC 357 (2004)]

# Relationship between Section 123 Agreements and Part 810 General and Specific Authorizations

- “Whether the United States has an agreement for nuclear cooperation with the nation or group of nations involved” is a factor that the Secretary of Energy “will take into account” in issuing a specific authorization pursuant to 10 CFR § 810.9
  - While presence or absence of a 123 Agreement is an important factor, lack of such an Agreement does not prevent the Secretary from issuing a specific authorization
  - DOE has issued more than a dozen specific authorizations for peaceful nuclear assistance to countries that did not have a §123 Agreement with the U.S., including USSR/Russia
- “Much...cooperation can take place in the absence of bilateral 123 Agreements, since it involves the exchange of expertise, lessons learned, and best practices rather than the export of nuclear material or reactor components.”
  - Testimony by Assistant Secretary of State V. Van Diepen at November 2009 hearing of Senate Foreign Relations Committee

# Possible Nuclear Commerce Implications of the UK's "BREXIT" Decision

- Will the UK's withdrawal from the European Union (EU) result in the UK's withdrawal from the European Atomic Energy Community (Euratom)?
- 1957 – Euratom was established through the Treaty of Rome
  - 5 initial Euratom members (Belgium, Federal Republic of Germany, Italy, Luxembourg and the Netherlands)
- 1958 – President Eisenhower's message to Congress noted that Euratom is a "major step toward a United Europe"
- 1973 – The UK becomes a member of Euratom
- 2016 – 28 countries are currently members of Euratom



# Member States of the European Union and Euratom

■ Member States of the EU/Euratom

■ UK's Euratom membership may terminate upon the UK's withdrawal from the EU



# U.S. Exports to the UK Pursuant to US Bilateral/Multilateral Agreements for Cooperation

- 1958 – 1973 – U.S.-UK Agreement for Cooperation was the basis for U.S. Exports of nuclear material/major nuclear components to the UK
- 1958 – U.S.-Euratom Agreement for Cooperation enters into force
- 1973 – U.S.-UK bilateral was terminated when the UK joined Euratom
- April 12, 1996 – A new U.S.-Euratom Agreement for Cooperation entered into force
  - U.S. exports to Euratom member states of natural and enriched UF<sub>6</sub> and major nuclear reactor components take place under that Agreement
  - That agreement is the basis for the UK's status as a “generally authorized” country for purposes of DOE's rule governing “assistance” to “foreign atomic energy programs” (10 CFR Part 810)
- If the UK withdraws from Euratom, the UK may seek to negotiate a bilateral agreement for cooperation with the U.S.

# Examples of Relevance to DOE Contractors of the NRC's Export Rules (10 CFR Part 110)

- DOE's export of highly enriched uranium (HEU) to Canada for fabrication into "targets" and irradiation of the HEU targets in AECL's NRU reactor and MAPLE reactors
  - Purpose of such irradiation was to produce Mo-99
  - The Mo-99 is separated from the irradiated targets during processing in a Canadian facility
  - The decay product (TC-99) of the separated Mo-99 is the most widely used medical radioisotope
- The NRC issued the export license, after denying the Nuclear Control Institute's petition to intervene in opposition to applications for export licenses to ship the HEU to Canada

# Examples of Relevance to DOE Contractors of the NRC's Export Rules (10 CFR Part 110) cont'd.

- Shipment of 140 kgs of weapons grade plutonium from DOE national laboratory to the port of Charleston and then, via sea shipment, to France
  - Areva had agreed to fabricate the plutonium into mixed oxide (MOX) fuel assemblies
  - Areva shipped the fabricated MOX assemblies to the U.S. for testing in Duke's Catawba reactor
- Greenpeace and other public interest groups filed petitions with the NRC to intervene in opposition to this shipment
- After the NRC issued the export license and the shipment took place, the security arrangements were considered by the IAEA and USGAO

# Key Communications & Export Compliance in the DOE Complex

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# The DOE Complex: Many Facilities . . .

## Office of Science Laboratories

- 1 Ames Laboratory  
Ames, Iowa
- 2 Argonne National Laboratory  
Argonne, Illinois
- 3 Brookhaven National Laboratory  
Upton, New York
- 4 Fermi National Accelerator Laboratory  
Batavia, Illinois
- 5 Lawrence Berkeley National Laboratory  
Berkeley, California
- 6 Oak Ridge National Laboratory  
Oak Ridge, Tennessee
- 7 Pacific Northwest National Laboratory  
Richland, Washington
- 8 Princeton Plasma Physics Laboratory  
Princeton, New Jersey
- 9 SLAC National Accelerator Laboratory  
Menlo Park, California
- 10 Thomas Jefferson National Accelerator Facility  
Newport News, Virginia

## Other DOE Laboratories

- |  |   |
|--|---|
| 1 Idaho National Laboratory<br>Idaho Falls, Idaho  | 3 National Renewable Energy Laboratory<br>Golden, Colorado    |
| 2 National Energy Technology Laboratory<br>Morgantown, West Virginia<br>Pittsburgh, Pennsylvania<br>Albany, Oregon | 4 Savannah River National Laboratory<br>Aiken, South Carolina |

## NNSA Laboratories

- 1 Lawrence Livermore National Laboratory  
Livermore, California
- 2 Los Alamos National Laboratory  
Los Alamos, New Mexico
- 3 Sandia National Laboratory  
Albuquerque, New Mexico  
Livermore, California





# ... Conducting Diverse Research



## ***Key U.S. Export Control Regulations***

- 10 CFR Part 810, U.S. Department of Energy
- 10 CFR Part 110, U.S. Nuclear Regulatory Commission
- International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120-130, U.S. Department of State
- Export Administration Regulations (EAR), 15 CFR Parts 730-774, U.S. Department of Commerce
- 31 CFR 500-598, U.S. Department of Treasury



## ***Key definitional sections for U.S. export controlled technology and technical data***

- **DOE Export Controls (10 CFR Part 810)**
- -10 CFR §810.3 (defines *technology, technical data, publicly available information, publicly available research* and *persons* subject to control)
- -10 CFR §810.2 (see particularly the covered activities listed in §810.2(b) and excluded in §810.2(c); Part 810 does not apply to publicly available information, publicly available technology, or to the results of fundamental research)

## ***Key definitional sections for U.S. export controlled technology and technical data (cont'd)***

- **EAR Export Controls (15 CFR Parts 730-774)**
- -15 CFR §772.1 (see particularly definitions for *technology*, *technical data* and *technical assistance*)
- -15 CFR §734 (see particularly §734.7 describing *published information* and *software* not subject to EAR controls, §734.8 describing results of fundamental research not subject to the EAR and related information described in 734.9-.11 that is not subject to the EAR)
- -15 CFR §774 (see Commerce Control List, particularly listings for D class software and the E class technology)

## ***Key definitional sections for U.S. export controlled technology and technical data (cont'd)***

- **ITAR Export Controls (22 CFR Parts 120-130)**
- 22 CFR §120.10 (definition for ITAR *technical data*)
- 22 CFR §120.11 (describing *public domain* information that is not subject to ITAR control)
- 22 CFR §120.45 (treating firmware, software, etc.)
- 22 CFR §121.1 (ITAR controlled items on the U.S. Munitions List)

## ***Key export issues relating to software and information with technology or technical data***

- 1-Deemed export and re-export
  - *Providing technology, technical data or software to a person who is not a U.S. citizen and lacks a U.S. green card or to an organization from another country can result in an export controlled transaction that may require a governmental export license or authorization.*
- 2-Technical ease of electronic, wireless and other transfers
  - *Ease of transfer impacts risk of unauthorized release where an export license or other governmental authorization is required.*
- 3-Understanding funder expectations regarding public or other release
  - *Restrictions the contractor accepts impacts whether the information or software may be made available to the public or may instead be subject to export controls.*

## ***Critical communications: Early and ongoing communication to confirm expectations***

- **Who** needs to communicate:
  - A- Laboratory personnel and their DOE and other funders
  - B- Laboratory researchers, management, legal, contracts, security and compliance personnel
- **What** they need to communicate about:
  - 1-Whether research results will be treated as proprietary information or limited from the public for national security reasons
  - 2-Whether resultant software will be made available to the public at a cost not exceeding that of mere reproduction (i.e., without payment of licensing, royalty or other fees)
  - 3-If research is funded in whole or in part by DOE and may involve an activity in the nine parts of 10 CFR Part 810.2(b), whether the research will be considered a DOE effort within the meaning of 10 CFR §810.3.