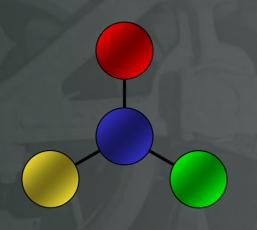
Export Controls on Nanotechnology

Matthew Goldstein, Esq. 520.882.1218 mgoldstein@swlaw.com



Snell & Wilmer

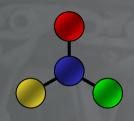
L.L.P.

LAW OFFICES

Character comes through.

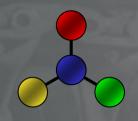
DENVER LAS VEGAS ORANGE COUNTY PHOENIX SALT LAKE CITY TUCSON

Scope of Export Controls



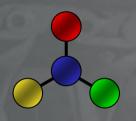
- Exports
- Re-exports
- Deemed exports
- Foreign manufactured products incorporating U.S. controlled technology
- Overseas activities of U.S. persons
- Transactions with persons, entities, governments

Primary Regulations



- Export Administration Regulations ("EAR")
 - "Dual-Use" Goods, Software, Technology, and Services
 - Commerce Dept., Bureau of Industry and Security
- International Traffic in Arms Regulations ("ITAR")
 - Military/Space Goods, Software, Technology, and Services
 - State Dept., Directorate of Defense Trade Controls
- Foreign Assets Control Regulations ("FACR")
 - Embargoed and Sanctioned Countries
 - Treasury Dept., Office of Foreign Assets Control

General Nature of Items Controlled ("Items" = Commodities, Software, and Technology)



EAR CCL

- Nuclear Materials, Facilities and Equipment, and Miscellaneous
- Materials, Chemicals, Microorganisms, and Toxins
- Materials Processing
- Electronics
- Computers
- Telecommunications and Information Security
- Optics, Sensors, and Lasers
- Navigation and Avionics
- Marine
- Propulsion Systems, Space Vehicles, and Related Equipment

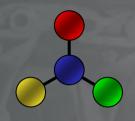
ITAR USML

- Firearms, Artillery Projectors, and Ammunition
- Explosives, Propellants, Incendiary Agents, and Their Constituents
- Launch Vehicles, Guided Missiles, Ballistic Missiles, Rockets, Torpedoes, Bombs and Mines
- Vessels of War and Special Naval Equipment, Tanks and Military Vehicles
- Aircraft, Spacecraft, and Associated Equipment
- Military Training Equipment, Protective Personnel Equipment
- Military [and Space] Electronics
- Fire Control, Range Finder, Optical and Guidance, and Control Equipment
- Auxiliary Military Equipment
- Toxicological Agents and Equipment and Radiological Equipment
- Spacecraft Systems and Associated Equipment
- Nuclear Weapons Design and Test Equipment
- Classified Articles, Technical Data and Defense Services Not Otherwise Enumerated
- Submersible Vessels, Oceanographic, and Associated Equipment

Miscellaneous Articles

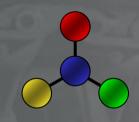
© 2007 Snell & Wilmer L.L.P. 4

Penalties for Noncompliance



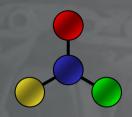
- Civil and criminal fines (\$50,000 to over \$1,000,000)
- Imprisonment
- Revocation of export licenses and privileges
- Seizure and forfeiture
- Deportation of foreign national employees
- Loss of government contracts
- Negative publicity
- Sarbanes-Oxley disclosures
- Shareholder derivative actions

President's Export Council Identified Criteria December 6, 2005



- Controlled NT must have clear military significance or potential for sensitive use.
- NT export controls must be multilateral in order to be effective.
- 3. Controls on NT must not place an unreasonable burden on the U.S. economy.

DoD Funding of NT



University Examples

- Consortium for Nanomaterials for Aerospace Commerce and Technology (CONTACT).
 - Defense Applications: "The next generation composites and smart materials the Air Force needs to ensure U.S. air superiority in the 21st Century."
- Massachusetts Institute of Technology Institute of Solder Nanotechnology (MIT ISD).
 - Defense Applications: "Use nanotechnology to dramatically improve the survival of soldiers. The ultimate goal is to create a 21st century battlesuit that combines high-tech capabilities with light weight and comfort."

Private Company Example

- Lucent Technologies
 - Defense Applications: "Funding for next-generation advanced silicon circuits
 [for]...increased security for military applications such as transformational communications
 and homeland security."







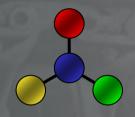






© 2007 Snell & Wilmer L.L.P.

Competing Concerns



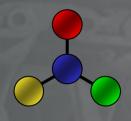
Government Concerns for Protection of Information

- Military significantly increase precision and effectiveness
- Homeland Security detection and identification of threats
- Economy protection from counterfeiting
- Terrorism bio and chemical WMD

Civilian Concerns for Free Disclosure

- Maintaining competitiveness in world markets
- Economic growth profits, job creation
- Standard of Living Military monopoly would cause society to forego benefits of NT and place under control of Pentagon

Implications for NT Industries



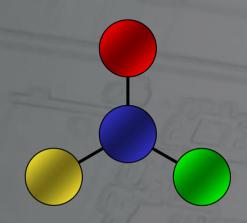
- Appoint knowledgeable person to handle export compliance.
- 2. Assess control status of technology in possession.
- 3. Establish a written export controls and economic sanctions compliance program.
- Conduct business in a manner that facilitates future compliance requirements should existing items become controlled or develop new items that are controlled.
- 5. Understand the scope of restrictions imposed under DoD funding.

MESSAGE:

Export controls on NT will be strongly influenced by applications.

Questions?

Matthew Goldstein, Esq. 520.882.1218 mgoldstein@swlaw.com



Snell & Wilmer

L.L.P.

Character comes through.

DENVER LAS VEGAS ORANGE COUNTY PHOENIX SALT LAKE CITY TUCSON