

Export-control laws worry academics

US researchers hope planned reforms will reduce the risk of prosecution.

Academics in the United States are hoping that pending legislation and a presidentially mandated review could provide long-sought relief from export laws they believe hamper international scientific cooperation and research.

The defence and aerospace industries have long struggled with the seemingly Byzantine nature of export-control regulations, as has NASA, which has sought exemptions to cover its work on the International Space Station. The recent sentencing of two US physicists to prison underscores how academics can also face penalties for failing to comply.

Many see the new administration of President Barack Obama as an opportunity to jump-start reforms. The Foreign Relations Authorization Act, passed by the House of Representatives in June, ordered a comprehensive assessment of the arms export-control system and would allow the president to remove satellites from the US munitions list — thus potentially easing life for the many academic space scientists who work on satellites. The bill has not yet passed the Senate, but separately on 13 August the White House announced that Obama was directing “a broad-based interagency process for reviewing the overall US export-control system”.

Previous efforts to change the laws have foundered amid congressional opposition, but reforms may go through this time, says Fred Tarantino, president of the Universities Space Research Association in Columbia, Maryland. White House reviews, such as the one on export control, typically take six to nine months to complete.

The export-control regime is split between two agencies: the commerce department, which is responsible for licensing dual-use items — those that have civilian and military applications — and the state

department, which administers technologies deemed to be military items under the International Traffic in Arms Regulation (ITAR). For many academics, ITAR is the heart of the problem: divided into broad categories, it focuses on types of technologies rather than specific items, leaving many unsure as to what is covered.

Particularly confounding is the concept of a “deemed export”, which means the release of technical data or information to a foreign national, even if it takes place in the United States. Deemed exports thus potentially cover a professor lecturing to a class that includes

“It’s counter-intuitive, and counter to academic discourse and exploration.”



S. DOERING/VISUM/STILL PICTURES

Imparting military-sensitive information to foreign students can land professors in jail.

foreign nationals. “When you’re dealing with interns and graduate students, most people don’t understand how you can export an item by letting your graduate student know about it and look at it,” says Jim Barger of the law firm Frohsin and Barger, based in Birmingham, Alabama. “It’s counter-intuitive, and counter to academic discourse and exploration.”

Take, for example, the case of John Reece Roth, a physicist at the University of Tennessee, Knoxville, who was convicted this year of violating the Arms Export Control Act (AECA). At issue was Roth’s research on plasma actuators designed to reduce drag on unmanned aircraft. Roth, who was working for a university spin-off company under a US Air Force contract, allowed two graduate students — one from China and another from Iran — access to what the government determined was controlled technical data. He also took a laptop containing information about the work with him to China, where he was giving lectures on the topic. Roth was found guilty and sentenced in July to four years in federal prison. Daniel Max Sherman, a former colleague who cooperated with investigators, was sentenced in August to 14 months in prison.

“I feel this case is an anomaly,” says Robert Kovac, the state department’s managing director of the directorate of defence trade controls. “Increased outreach efforts, as well as the publicity associated with the case, have led to more awareness of AECA and ITAR requirements

within the university community.”

Indeed, university employees working on projects involving controlled technology should pay attention, warns Anupam Srivastava of the University of Georgia’s Center for International Trade and Security at Athens. “The penalty,” he says, “clearly suggests the federal government is serious about prosecuting cases.”

Concerns over prosecution have even led some academics to self-censor when teaching, particularly in the area of satellites, which have been under the control of the state department since 1999. That shift, which was prompted by a satellite manufacturer illegally sharing technical data with China about the failure of a Long March rocket, had an immediate effect on university work in the area. “There are things I was once comfortable talking about in class, and I’m not comfortable with anymore,” says Thomas Zurbuchen, a professor of space science and aerospace engineering at the University of Michigan in Ann Arbor.

As an example, Zurbuchen says he can talk in class about the physics of how radiation affects silicon in a circuit, but not how to solve that problem — because that would get into the specifics of manufacturing, something covered under ITAR. When it comes to the lab, those problems become even more complex; Zurbuchen says that he is forced to exclude foreign graduate students from working on space hardware altogether. “I’m liable myself,” he says, “not the university.”

Sharon Weinberger