



Complying with the 42 CFR Part 73— Possession, Use, and Transfer of Select Agents and Toxins and the Companion Rule Issued by the USDA, 7 CFR Part 331, and 9 CFR Part 121, the Agricultural Bioterrorism Protection Act of 2002; Possession, Use, and Transfer of Biological Agents and Toxins—A Biosafety Officer's Perspective

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Introduction

Unless you have been in solitary confinement for the past 2 years, you are probably well aware of the gargantuan task of trying to get in all the compliance details necessary to meet or exceed the requirements of the CDC's 42 CFR Part 73, *Possession, Use, and Transfer of Select Agents and Toxins* (CDC. 42 CFR Part 1003. *Possession, Use, and Transfer of Select Agents and Toxins; Interim Final Rule*) and the companion rule issued by the USDA, 7 CFR Part 331, and 9 CFR Part 121, *the Agricultural Bioterrorism Protection Act of 2002; Possession, Use, and Transfer of Biological Agents and Toxins*. (USDA. *Agricultural Bioterrorism Protection Act of 2002; Possession, Use and Transfer of Biological Agents and Toxins; Interim Final Rule*). This article builds on the presentation that I made at the ABSA Annual Conference in Philadelphia in October 2003. It is hoped that I can offer some insights to assist you in your compliance efforts.

It is now after November 12, 2003, and unless you have submissions in the pipeline and have your

security clearances in hand or pending from the Department of Justice (DoJ), you must either stop working with all select agents or start the application process if you are planning to work with select agents in the future. As of the time of this writing, I am in the latter situation since none of the current work is using toxins above the exemption limits in any aggregate quantity, or using complete organisms or viruses, or genomic fractions thereof that would allow the complete reassembly of a functional select agent.

SO, what do you have to do now? If you have your control numbers or special identification numbers from the CDC and/or USDA—you should be known to both agencies if you have overlap agents—and clearance from the DoJ, then you are waiting for an inspection from either the CDC or the USDA. One detail I point out immediately is the amount of information that you have to have for a USDA inspection *vis-à-vis* the Facility Security Compliance Review. With no exaggeration on my part, it required the inspector and I a full 2 hours to go

through each question and ponder an appropriate answer. A lot of ground is covered with respect to the actual physical site, the facility, the securing and safeguarding of SBATs (select biological agents and toxins), access security, locking systems, safeguarding, passwording and protection of IT data systems, security firewalls, protection of IT assets, documentation, and control of personal access to SBATs.

The bottom line here is to get hold of a copy of this document (about 26 pages in all), and go through it. It is necessary for planning your security needs and guiding you as to what documentation you will need and in what form for your facility. You should also go through it and fill out a blank copy before the USDA inspector(s) comes. This may cut down on the time needed to review this document during the actual inspection. I know that the CDC has a similar document, but the individual I spoke with stated that it is not as involved with respect to the security of Information Technology as the USDA form is.

At the Mount Sinai School of Medicine, New York City, New York, several lab groups are planning to work with Select Agents, so the process starts *de novo* again. The “*Application for Laboratory Registration for Possession, Use, and Transfer of Select Biological Agents and Toxins*” form available at the CDC’s SAP site will be completed for each laboratory group. Every individual who will have access to the laboratories where the agents will be stored/used will be evaluated and, most likely, will have fingerprints and an FD-961 submitted to DoJ. I know my one statement at my presentation attracted some comment and difference of opinion, but since the number of individuals is relatively small, it is easier for MSSM to have everyone go through the clearance evaluations for these individuals. The alternative is to identify individuals who will need limited access and provide for a cleared individual who is available to escort that person *at all times*. I personally think that if you have less than 50 or 60 individuals, this should not be a problem to have them all cleared for work on that floor.

I am leveraging this also against the consideration that a college/university setting is an open setting. Since I can’t have complete openness for all researchers, at least those working with Microbial

Agents, using shared facilities, or working on other components of the same projects can be afforded openness by having the same security clearance and access to shared sites that the SBAT-users will access.

History-101, 42 CFR Part 73

As I write this (December 8, 2003), a year ago our lives changed drastically—42 CFR Part 73 intruded itself into our lives, with several “drop-dead” dates. To recap what I had on my slides, this is what the future would look like:

- Pre-42 Part 73.0
- Patriot Act October, 2001
- Survey of 700 MSSM laboratories re: Microbiological agents and toxins in use
- Preparation of initial report on Survey data
- Second survey in 2002-updates 2001 Report
- Submissions to CDC and USDA

The Survey, which was not some clairvoyant perception on my part but a need to establish what hazardous agents may be on site, was an excellent springboard for getting the data, information, and submissions ready. I would recommend that you do a survey biannually or sooner if necessary. Biannually works for me because of the turnover of junior faculty and staff. This keeps you in the loop as to what agents are being used in your facility and by whom.

- Survey of 700 MSSM laboratories re: Microbiological agents and toxins in use
 - ◆ Survey based on the agents listed in the “*NIH GUIDELINES.*” Looking at all *agents* in addition to SA&Ts for the “Big Picture”
 - ◆ Looking at toxin use and BSL-3 agent use, too, to assess proper safety equipment and practices in use

Also, there were submissions that had to be made to the CDC and the USDA if you were working with certain agents before the advent of 42 CFR Part 73.

- Pre-42 Part 73.0
 - ◆ Under 42 Part 72 Lab Registration/Select Agents and Toxins (LR/SAT Regs) labs working with Select Agents and Toxins had to register their activities.
 - ◆ Obtain Certification of Facility Registration

under LR/SAT requirements for toxins and genetic materials as well as SAs.

- ◆ Inspection of laboratories on a semi-occasional* basis.

**non-specific time interval for internal inspections based on your needs—not required by CDC*

Because of the September 11, 2001 terrorist acts and the post-9/11 anthrax incidents, a new law came into existence with some serious impacts on the microbiological research community:

- Patriot Act October, 2001
 - ◆ Outlined changes coming to the LR/SAT
 - ◆ Looking at PI's, Faculty and Staff re: potential terrorist activity
 - ◆ First hints of tightened Laboratory Security over what was specified in the *BMBL* (4th ed.)
 - ◆ Hints that a report on what SA&Ts and who possessed them at your facility was in the offing.

Our Survey at Mount Sinai School of Medicine was issued to the research community, and we had about 95% response on the first and second promulgations of the survey. The database was developed and:

- Preparation of initial report on Survey
- Second survey in 2002—updates 2001 Report
 - ◆ Information was collected down to standard size of storage vessel and @ volume of contents within vessel
 - ◆ Virologists gave me total number of pfu's in their storage samples.
 - ◆ Good platform for future reports to CDC, USDA

The virologists are now complaining that they have to give me their inventories, down to standard size of vessel and plaque-forming units available. This is important to document, how much is being prepared and is available, on a weekly or monthly basis.

- September 2002 Submission to CDC and USDA
 - ◆ The cards came...
 - All SA&Ts reported on the 2001/2002 MSSM Biological Agent Surveys were reported to CDC and USDA.

- Polio report was also prepared at the same time

The reporting was the first phase, with respect to which facilities had what and who had which agents on site. Activities quieted down until the issuance of 42 CFR Part 73. Then a whole new set of deadlines and requirements came into being:

- February 7, 2003 Submissions—CDC/USDA, on what was “on-hand” at your facilities
- Development of web site Information
- Notification to PIs and Faculty of need to change practices from LR/SAT to SAP reporting requirements
- Development of training materials re: Security, Storage, Access and Emergency Response

That was the first round of activities; then there was the compliance with sections 73.8 and 73.14:

- March 12, 2003
 - ◆ Fingerprints (mine and CEO's) go to FBI
 - ◆ Setting up in-house fingerprinting capability for submission to FBI on all MSSM employees working with SA&Ts
 - ◆ Already done by Security as required by NYS for all Physicians and Medical staff

This can save you a lot of time effort and money, if your in-house security is capable of taking fingerprints. If not, then you will have to go to your local police or sheriff's office and get them processed there. I haven't looked into whether other fingerprinting services would be accepted by the FBI (i.e., a private security company with that capability). It may be worth a check, if you are a biotech firm with outsourced security services.

MSSM developed its SA&T Security Program. Rather simplistically, I took the regulations and requirements and developed a framework:

- **June 12, 2003—Security plan developed**
 - ◆ Simply took section from the regulation and modified it specifically for MSSM
 - Section for lab numbers, PI, and Faculty/ Staff on project and certification—no one *was a bioterrorist*.
 - Agent(s) worked with reported on form
 - Secure locations indicated on floor plans
 - How SA&Ts are secured/inventoried/maintained under surveillance (*and by whom*)

- How files/records are secured and monitored

Please note that this a *very basic* starting point. There are issues that I mentioned earlier, including Information Technology issues, status of local security force, operations, surveillance program, etc. As I mentioned earlier, get the USDA's Security Checklist and go through it line by line.

When looking at Security issues remember this is all new to your researchers. They normally don't go through security clearances, background checks, and fingerprinting. Come to think of it, neither do we:

- Microbiology PIs *are confused* as to what to fill out on the registration documents.
- Meeting held to go line-by-line over all content needed. I still completed the forms myself!
- Took a full week for researchers to get the Section 5 and 5A submissions back to me...still incomplete!
- Plans are still in draft stage so safety and security details are "pending" at this time.

We are still in the planning stages for our BSL-3 facility. NOW is a good time to look at:

- Security needs
- Safety (BSL) needs
- Capacity needs
- Configuration of space needs
- Support Capability needs
- Special Equipment needs
- Personnel needs

Also, you have to remain vigilant and know what is coming into your facility, who is coming into your facility and how much is on hand in your facility of any Select Agent and/or toxin. As I said before, you must document, document, document all transactions, transfers, hirings/firings, inventories, entry and exit logs, and all communications with CDC, USDA, DoJ, and the FBI.

It is hoped that some of these observations (or all) may help you to get hold of the compliance issues and develop schemes to meet the requirements of 42 CFR Part 73. As much as I would like to offer a "one size fits all" approach, no two institutions or situations are the same, although approaches can be similar and can be standardized somewhat. READ through the law completely and understand what it

is asking. Go to the Biosafety web site and ask for help at BIOSAFTY@MITVMA.MIT.EDU. Your workload can be lightened if you confer with one of your colleagues who had the same issue(s) and found a solution to that problem(s). Or you can get advice on that site for these and any other issues pertaining to biosafety.

- Lessons learned:
 - ♦ Be VIGILANT—"Trust but verify!"
 - Three reported SA&Ts were actually destroyed before February 7. *Nobody told the RO!* (Egg-on-face syndrome re-filing with CDC!—*Don't want headlines.*)
 - Keep after the most likely "candidates" i.e., Infectious Diseases, Microbiology, and the Mol. Bio.Molecular Biology-Gene Therapy people. They are looking at some of the animal agents as "safe" vectors (i.e., Nipah, VSV, etc.) but forgot they are SA&Ts (blank stares and open mouths from researchers).

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