

How to Avoid Bad SCIF Door Installations

One of the most challenging aspects of SCIF construction is the proper ordering and installation of the SCIF door. STC requirements have become much more stringent and testing methods far more sophisticated making accreditation more difficult to achieve.

Your installation may require a one piece welded frame or a two piece split frame to accommodate the SCIF wall being constructed. The sealing system must be compatible with the hardware installed on the door. The rough opening must meet minimum standards for anchoring and supporting a metal SCIF door. Translating your SCIF door requirements into a solid technical specification will go a long way towards guaranteeing that the proper door, door frame and door hardware are selected and ordered. The manufacturers and distributors of metal acoustical door assemblies, such as Overly Door Company, are qualified to assist you in this. To help achieve this, we suggest that you include your detailed technical specifications in your RFP or RFQ.

Once you have chosen your SCIF door, it is essential that you select a contractor who is fully qualified to perform your installation. Most SCIF doors fail to pass accreditation as a result of poor installations, not defective products or parts. You should stipulate in your RFP or RFQ that the installers that the contractor will use are not only licensed locksmiths as required by state laws but, in addition, are factory trained and certified for both the door installation as well as the locks that are required. You should request that the names and certificate numbers for the qualified installers that the contractor intends to use are included in their proposal to you.

Require that your technical specifications be strictly followed when building out the rough opening. Prior to the arrival of the acoustical door assembly, the rough opening should be thoroughly inspected to ensure that it will meet or exceed the door manufacturer's specification for size and weight of the door.

Selecting a contractor who employs factory trained and certified personnel with the skills and experience required to perform your complex installation may result in a slightly higher cost than using untrained installers but it will drastically reduce the possibility of a below par installation which can be very costly to resolve.

Please contact us to if you would like us to help you set up the specifications for your RFP or RFQ. We would also be pleased to bid on your next SCIF door installation.

Some Major Changes Regarding SCIF's

In November of 2012, the ICD 705 regulations went into effect replacing ultimately the DCID 6/9 and the JAFAN. This document was updated in April of 2013 to reflect the current standards we use today regarding SCIF construction. The purpose for the ICD 705 was to give a broad common standard that all US government, military and government contractors could use allowing for cross accreditation between agencies. Since the implementation of the ICD there have been some major changes in protocol as well as construction.

Document Preparation

Before the ICD 705 went into effect, construction of a SCIF did not require much in the way of approved documents prior to construction that would guarantee a well-constructed, secure facility.

As long as you documented the steps using the common standards and photographic evidence that you could present at a later time, a spec SCIF could be built. That is no longer the case.

There are many documents that need approval from the AO (authorizing organization) prior to any construction being done. Construction plans and documents need to be approved that demonstrate how a certain SCIF level will be achieved in converting an existing space or construction of a new space. These documents include traditional mantrap design to protect observation of the SCIF entry door. The door itself must have a STC 50 sound rating installed. The lock must be an approved UL fire rated lock like the Lockmaster LKM7000/X10. All exit doors from the SCIF must push out with a one motion egress even with the combo lock spun shut. Walls for a tempest rated SCIF used to be constructed using 9 gauge steel mesh. This can be replaced with 5/8 inch fire rated plywood. This plywood would take the place of one of the 5/8 inch drywall layers. The wall foil must be applied according to how each agency prefers for overlapping unto the floor and ceiling. A recent development disallows the use of the GE Sentrol 2707A door contact of the perimeter doors. A class II door contact must be used such as the Magnasphere.

Other documents that have to be presented and approved are the electronic security plan, fixed facility check list and the new Construction Security Management plan. Recently someone asked me regarding SCIFs constructed prior to the ICD 705, whether they would have to be upgraded within a certain time limit. I have not heard anything. However, if the size of the SCIF is altered greater than one third the size, the facility will have to be brought up to the latest standards. If a space previously accredited but sitting de-accredited for longer than a year with no active security system, that space will have to be upgraded. A space that has been de-accredited but has maintained an active alarm system with UL2050 certification can be reaccredited easily.

For any other questions please feel free to contact Mark Jones at markjones21401@hotmail.com.

This tutorial was written by Mark Jones. He has been involved with the secure space field since 2000. He is a subject matter expert regarding UL681 alarms and UL2050 monitoring. Mark helped develop and teach the first non-classified SCIF construction management class through Frederick Community College in Maryland. He worked with the Maryland Department of Economic Development to start the SCIF construction tax credit program. He currently consults on SCIF construction projects nationally and is involved with turnkey delivery of SCIF space in the mid-Atlantic region.

Tutorial: What You Need To Know About SCIF Door and Lock Technical Requirements Before You Build A SCIF

Building a new SCIF or expanding an existing SCIF can be one of the most challenging endeavors you will ever face as a security professional. Of all of the individual parts of this planning process, the SCIF door and lock may well prove to be the most difficult. The purpose of this tutorial is to identify the steps involved in selecting the materials, building the rough opening, selecting and installing a metal acoustical SCIF door and life safety approved locks while still meeting all of the requirements, rules and laws involved.

Planning the physical configuration of the SCIF and doors

Generally speaking, DoD regulations prohibit having more than one entry/exit door in a SCIF. If

more than one door is essential a special procedure must be followed in order to gain approval for a second entry/exit door.

However, it is acceptable to have one or more exit only doors which do not require a certified combination lock since there will be no re-entry permitted. The general requirements for acoustical rating are the same for exit only doors but the locks required will vary. It is important to keep in mind that DoD regulations specify that all locks used on SCIF doors be deadlocks not deadlatches. That eliminates the standard procedure of using an exit bar with a deadlatch for this purpose.

Once the SCIF floor plan is final the next step is to determine the size of the doors required and how this impacts the rough opening itself.

Determining the size of the door assembly and the rough opening

The normal size of a metal acoustical rated door in sound group 3 is 3'0"x7'0"x 1 ¾". However, it is not unusual to have larger or smaller openings or even double door openings. A door slab in sound group 4 can not only be considerably larger than 3'0"x7'0" but, in addition, can range from 2 ¾" to 3" thick.

There are some significant concerns if you need a different sized opening or double door to meet your needs. The first item to consider is whether you are using an existing rough opening or are building one from scratch. In either case, it is absolutely critical that the SCIF rough opening be constructed or modified to meet factory requirements for the door manufacturer you have selected. Any deviations from perfectly level, perfectly plumb and perfectly square will result in severe problems in meeting the requirements for installing the door.

Equally important is the floor section to which the threshold will be attached. It must also be perfectly level in all directions or the acoustical requirements will not be met.

Selecting a SCIF door lock that meets all specifications, requirements and laws

Several years ago NFPA101 was modified in terms of what locking mechanisms could be used on any door in the means of egress. All doors that have two or more locks are required to use a lock which has only one mechanical motion required to egress the space. The 2012 edition of NPA101 Life Safety Code page 101-53 specifies:

7.2.1.5.10.2 The releasing mechanism shall open the door leaf with not more than one releasing operation.

At the present time the only lock that meets this requirement is the Lockmasters 7000 Series deadbolt. This lock not only meets the NFPA101 requirements, but in addition, meets the DoD requirement that all locks in a SCIF be deadlocks not deadlatches. This lock also meets the requirements of the recently modified *ICD705 Tech Specs*. There are several manufacturers in the process of producing similar locks that that meet all of the requirements but as of this date none of them have reached the marketplace.

Selecting a metal acoustical SCIF door assembly that will achieve both acoustical STC and security requirements

The first step is to determine your technical requirements before you place an order. You should not have any problems determining the door model that you are going to order based on size and STC requirements. What you have to be extremely careful of, however, is choosing a door where the acoustical seals will work properly with the special Lockmasters deadbolt.

In order to meet security requirements, the Lockmasters deadbolt must lock every time it is closed. This is achieved by making sure there is no excessive pressure on the lock as it

closes. Locksmiths typically refer to this as a “floating installation” which means that the closing mechanism does not put excessive pressure on lock as it is opened or closed.

There are three types of acoustical seals that are commonly used in such installations:

- Positive Pressure Compression seals
- Magnetic seals
- Wrapping “double bubble” seals

Positive pressure compression seals can be used with any lock that does not require a floating installation since in order to achieve an acceptable acoustical seal there must be pressure on the pressure seals. This would mean, in simple terms, that when you are using a mechanical exit bar, cipher lock or even an ordinary leverset, the pressure seals should be your choice.

On the other hand, this philosophy does not hold true for the Lockmasters deadbolt. Since this lock requires a floating installation, excessive pressure is its primary problem. The solution is simple. By choosing magnetic seals for your new door assembly you eliminate the problem of pressure on the locking mechanism since the magnetic seals are themselves free floating once installed. Magnetic seals require that the surface to which they are sealed is metal, not wood, since the magnetic interaction is a requirement. Wood doors would require a wrapping “double bubble” style seal.

Selecting the correct door for your needs implies selecting the proper manufacturer. For doors that require the Lockmasters 7000 series deadbolt and subsequently magnetic seals, the door selected must be metal in order to work properly. The Overly STC47 wood door would also work with magnetic seals.

As the STC rating increases, the manufacturer you choose must be able to supply magnetic seals that will meet the requirements of, for example, an STC53 door. In addition, the manufacturer must be able to provide cam lift hinges or an automatic sealing door bottom and appropriate thresholds to achieve acoustical requirements. There are a limited number of manufacturers that can meet these requirements one being Overly Door Company.

Selecting an installer for your doors and locks

The locks are very sensitive pieces of electrical and electronic equipment. It is extremely important that whoever you select to do the installation has factory training and certification on both the Lockmasters and Kaba Mas locks. Perhaps even more important is that the installer has factory training and certification on installing the door, frame and seals.

It would probably be a good idea to require that anyone that you are asking to bid your job supply you with copies of the appropriate certificates of the technicians who will be assigned to your project. In addition, most manufacturers can supply you with the requirements for building a rough opening that will accommodate their door. Again, it is a good idea to request that information be sent to you before you make your final decision.

As a general rule, it is a wise idea to find an installer who can both supply the materials and installation as one operation. It only makes your job harder both during the installation and during the warranty period to solve your problems with a half a dozen subcontractors instead of one installation company.

The tutorial was written by Harry O'Haver, President, Industrial Security Locking Systems, LLC. Mr. O'Haver is recognized as an expert in the field of acoustical doors, high security locks and government requirements for SCIF's including ICD705 Tech Specs, NFPA101, ADA, etc. Mr. O'Haver is a master locksmith as well as former two-term Chairman of the Chesapeake Chapter of the American Society for Industrial Security. Mr. O'Haver is factory trained and certified on the

Lockmasters 7000 Series life safety deadbolts and the Kaba Mas X09 and CDX09 electronic combination locks. He is also both a distributor and a factory trained and certified installer for several acoustical metal door manufacturers.

October 2012 Deadline GSA Containers



October 1, 2012 was the deadline for complying with ICD 705 Tech Specs regarding implementation of Federal specification FF-L-2740A referring to GSA containers.

This regulation prohibits government contractors from using non-GSA approved security containers for storage of classified materials after October 1, 2012. The Defense Security Service (DSS) has been implementing this requirement as an item of special emphasis during recurring inspections.

There is no requirement to retrofit combination locks on GSA approved security containers, if the integrity of the container is intact and the GSA label is still affixed. When locks are determined to be unserviceable the replacement lock **must** comply with Federal specification FF-L-2740B.

At this point in time, the only combination locks that comply with Federal specification FF-L-2740B are the Sargent & Greenleaf 2740B and the Kaba Mas X-10 electronic combination locks.



S&G 2740B



Kaba Mas X-10

Since many of the existing combination locks on GSA containers are the old Mosler mechanical locks as well as older models of Sargent and Greenleaf, etc. for which parts are no longer manufactured, you will need to use one of the above FF-L-2740B approved locks to replace them.

Single Motion Mechanical Egress Explained

Excerpts from a Presentation Given by Harry O'Haver President of Industrial Security Locking Systems, LLC on January 10, 2013

The most recently updated publication of ICD705 Tech Specs contains a number of significant modifications in requirements for SCIF doors and locks. One of the more significant changes deals with STC ratings for acoustical doors and in fact, the construction of the doors themselves. Prior to the new requirements of ICD705 you could use wooden doors if they had a STC rating of 45 or above. Since the new methodology for testing SCIF doors has changed, wooden doors without acoustical seals are not generally capable of meeting STC45 certification much less STC50 and metal doors are now a basic requirement.

This has also resulted in a different approach to sealing the primary sound gap between the four edges of the door, frame and threshold. In the old days using a wooden door you could install a sound resistant seal on both jambs and the header with an automatic door sound seal at the threshold. With the new regulations, it has become more practical to choose a door that not only meets all of the requirements of ICD705 but also has an integral door, frame, sound seal and threshold as a package.

An example of such doors are those made by the Overly Door Company, who has been manufacturing metal acoustical doors such as those that I have just described for over 50 years. They have even progressed to the stage where they use special magnetic seals that will stand up to the new STC requirements as well as the requirements of ASTM Designation: E336-09 which is the approved test method for measuring airborne sound attenuation.

Another significant requirement for doors in the means of egress is the NFPA 101 life safety code. This code specifies that doors in the means of egress – including SCIF doors – that have two locks on the door replace them with a single motion mechanical egress lock. This lock makes it possible to unlock all of the locks on a door with one mechanical motion. Currently the only lock that is available that meets this requirement is the Lockmasters LKM7000 series single motion deadbolt.

It is also important to be sure that all of the parts of a SCIF door package fit together into a cohesive operating system. For example, it is a wise idea to use a metal acoustical door package that supplies magnetic seals whenever you are using the LKM7000 series lock. This not only gives you a better operating system but meets both requirements for security and STC ratings.

How to Free a Jam in a High Security Level 6 Paper Shredder

A shredder jam is one of the most common problems any of our customers run into. Especially when NSA approved high security paper shredders can only tolerate an average of 7 sheets per pass, a paper jam happens daily.

With a home paper shredder you'd probably just start yanking material out of the cutting heads and hope it comes back to life. But since a high security shredder is an expensive investment, it might be worth taking a little advice from a professional.

By following these steps you can free a jam without inflicting permanent damage on your high security paper shredder.

Step 1: Listen. If you hear something working, and the shredder is actually louder than it normally is, then you don't have a shredder jam at all. One of the gears that connects the cutting head to the motor has been stripped. Because a gear is typically stripped in the process of shredding paper, it gives the illusion of a jam. But a jammed shredder isn't very loud at all. In fact, it's barely able to generate noise. A stripped gear requires a technician visit, but you can make the visit even quicker by explaining that you're almost certain you'll need a new gear.

Step 2: It's never good to just try and yank the paper out. Level 6 shredder cutting heads are so delicate that you might bend a tooth. So start by blasting the throat of the shredder with commercial grade Whitaker Brothers formula #55 shredder oil. Give the oil about 30 minutes to soak into the paper and work it's way into the cutting heads. If you're lucky, the paper will be weakened enough that you can free up the jam. A few tugs should do it.

Step 3: Call a professional shredder company that has an in-house service department. Many internet companies use outsourced service companies that focus on printer and copier repair. You do not want someone who has never seen a high security shredder before working on your high security shredder. A professional shredder company will have a few steps that can be taken beyond what you see above. However they involve opening up the paper shredder which will void your warranty if not done by a professional. Additionally, since classified material might still be visible and immovable within your paper shredder, you'll want a technician with a security clearance to help out.

About the Author

Kyle Mitchell works for Whitaker Brothers Business Machines out of Rockville, MD (www.whitakerbrothers.com). They are the industry leaders in high security level 6 data destruction equipment within the United States. Their NSA approved shredders can be found within commercial businesses, the Federal Government, and over 115 countries throughout the world. Whitaker Brothers is a proud member of the SCIF Consortium and selected as the sole vendor for classified information destruction products.

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UL2050 Electronic Security

When designing electronic security for a SCIF facility please keep in mind the parameters set in the National Industrial Security program Operator's Manual (NISPOM) and the Director of Central Intelligence Directive (DCID) 6/9, Annex B

– Intrusion Detection Systems which will soon be replaced by the Intelligence Community Policy Guidance Number 705.7 (ICPG 705.7).

The electronics security system or IDS is comprised of 3 parts; intrusion detection devices, PCU and monitoring station. These three areas cover the detection and alarm reporting phase so that an alarm assessment and response to a SCIF intruder alarm can be made.

The physical areas that need to be covered with intrusion devices are: the door entering the SCIF, doors leaving the SCIF if different from the entry door and motion within the SCIF. The new requirement by the ICPG 705.7 to monitor a SCIF door is a level II door contact. Harko Magnesphere HSD door contacts with outputs for alarm and tamper are the only door contacts on the market⁶ that fulfill this requirement. A good device to use as a motion detector is an Optex FX-360 360 degree ceiling mounted motion detector. This motion detector works from 25' to 40' depending if the ceiling height is 8'-12'. If you have a SCIF ceiling that is up to 16' high, you will need an Optex SX-360Z long range 360 degree ceiling mounted motion detector that offers a range of 60'.

Another device may be added which will enhance your SCIF security and make it conform to the new NFPA 101 law for exit accesses. This is a Lockmaster LKM7003 deadlock with a built in XO9 combination lock. It is the only lock on the market that meets both DoD and BOCA code requirements. The lock can be monitored by the IDS system to insure that the IDS system will not arm until the deadlock bolt is fully seated. When combined with an XO9, in the case of the Lockmaster 7003/XO9 SCIF lock, the status of the XO9 also can be monitored as spun opened or spun closed.

The PCU or Premise Control Unit controls the intrusion devices to insure that only SCIF personnel can initiate the change in the SCIF IDS from armed to disarm. A UL2050 rated keypad located inside the SCIF will arm or disarm the system by using a prox card with PIN or PIN alone. All these devices including the PCU panel are required to have a tamper switch monitored as a separate zone. All connectivity between the devices and the PCU should not extend beyond the perimeter of the SCIF (DCID 6/9 3.1.1).

The new standard communications encryption between the PCU and the monitoring station requires a 128bit encryption rate. The DMP XR500EA-G panel has an encrypted 128bit output allowing protected communications to and from the panel. The DMP panel requires a DMP decryption unit at the central monitoring station. This is called a central station receiver. Generally, the PCU device such as a DMP XR500EA-G intrusion detection alarm panel is connected to a LAN and then a WAN to reach the central monitoring station.

In many cases, an access control system is utilized to unlock the SCIF door once the XO9 is spun opened. The PC containing the access control software must be located within the SCIF. There is a two tier access control that requires the personal presence and unique personal identification number (PIN) to enter the SCIF. This can be accomplished many ways. The most common is the have a prox/pin card reader which requires a proximity card as well as a PIN number. Others that are acceptable are prox cards with biometric readers such as fingerprint, retinal scan or hand topography. The actual biometric information is stored on the prox card itself which then compares that info to what you present to the reader such as a fingerprint. The same prox card can be used to activate the keypad for the IDS. Once the card is presented a PIN number must be entered to turn off the IDS.

In certain instances, multiple SCIF rooms can be connected through one PCU to be monitored. Each separate room would have its own keypad to arm/disarm the IDS for that room. The cable for those devices must be carried back to the PCU via conduit to prevent tampering and disconnection. If a device loses it's connectivity an alarm is immediately generated to the central monitoring station. In cases where multiple rooms are monitored together, please refer to your Cognizant Security Agency (CSA) for guidance.

For more information concerning electronic security for your SCIF, please contact Mark Jones at mjones@fiberplusinc.com. You can also reach him at 410-897-2403.

Life Safety Code – NFPA 101 Laws Covering Single Motion Egress Locks

(Note: Some of the following excerpts from NFPA 101 have been paraphrased for the purpose of clarity.)

The primary clarification of NFPA 101 that refer to locks on doors in the *means of egress* is:

7.2.1.5.10.2 The releasing mechanism “shall open the door leaf with not more than one releasing operation.”

This means that:

- 1) You cannot have two locks on a *means of egress* door unless they can be opened from the egress side with one manual motion.
- 2) You cannot have a combination lock and a leverset on a *means of egress* door (whether or not the combo lock is “normally open”) if you need two unlocking motions to exit.

NOTE: This represents a major shift from the “old philosophy” that combination locks are always considered to be unlocked when a room is occupied, or when the “safety pin” on the combination lock is used.

- 3) The same rules apply to a deadbolt and a leverset on a *means of egress* door.
- 4) In addition to the *two releasing motions* prohibition, any door that has two locks either inside or outside of the *means of egress* must have **“locks that have an *obvious method of operation* and that are readily operated under all lighting conditions.”** As an example, an CDX-10 combination lock clearly does not have an obvious method of operation from the egress side regardless of lighting conditions.

7.2.1.5.10 A latch or other fastening device on a door leaf shall be provided with a releasing device that has an “obvious method of operation” and that is “readily operated” under all lighting conditions.

SOLUTIONS TO THE PROBLEM

When dealing with the need to have a combination lock (mechanical or GSA approved electronic) and a leverset, or other exit device, on the same door you currently have one choice. You should use the GSA FF-L-2890B approved Sargent and Greenleaf S&G 2890B single motion egress lock combined with either the S&G 2740B or the Kaba Mas X-10 electronic combination lock **or** remove one lock from the door.

TECHNICAL SOLUTIONS

The single motion egress deadbolt must work on both out-swinging doors and in-swinging doors. This is particularly important because there are NFPA 101 exceptions that allow certain “in-swinging doors” to be included in the *means of egress*.

7.2.1.4.2 Doors leaves required to be of the side-hinged or pivoted- swinging type shall swing in the direction of egress travel where serving a room or area with an occupant load of 50 or more.

The S&G 2890B series locks will work on both out-swinging and in-swinging doors. Additionally the S&G 2890B accepts either the S&G 2740B or Kaba Mas X-10 GSA approved electronic combination locks. (This meets the DoD/ FEDSTD FF-L-2740B and FF-L-2890B requirement for open storage of classified information).

Means of Egress

DEFINITION OF SINGLE MOTION MECHANICAL MEANS OF EGRESS – NFPA101

For doors in the means of egress that have two or more locks installed a single motion mechanical lock must be substituted for the two locks. The definition of single motion mechanical egress locks is:

- The lock must have only one mechanical motion required to unlock all locks on the door.
- As an example, doors that have a DoD/GSA approved electronic combination lock and another piece of exit hardware such as a lever set or exit bar, are not life safety acceptable as defined by NFPA101.
- An example of such a single motion mechanical egress lock is the Lockmasters LKM7000 Series deadbolt. These locks not only meet the NFPA101 requirements for life safety but additionally meet the DoD requirements for all locks in SCIF's and other high security rooms must be deadbolts, not deadlatches.

DEFINITION OF MEANS OF EGRESS

3.3.136 Means of Egress. A continuous and unobstructed

way of travel from any point in a building or structure to a

public way consisting of three separate and distinct parts: (1)

the exit access, (2) the exit, and (3) the exit discharge.

As defined in NFPA 101. 3.3.136* (above) the means of egress has three separate parts. Part one is called the exit access. This is literally the first door in the means of egress.

3.3.63 Exit Access. That portion of a means of egress that leads to "the exit."

The exit access can be a marked exit door from a room housing 50 or more people, an office or even a room with no regular occupants that is used intermittently by several different people (e.g. communications rooms, copier

rooms, lunchrooms, etc.).

7.2.1.2 Every door and every principal entrance that is required to serve as an exit are to be considered as part of the exit access.

It is commonly thought that an office or a communications room are not part of the means of egress because they seldom have a lighted emergency exit sign and sometimes aren't occupied on a regular basis. **This couldn't be farther from the truth.** NFPA 101 states "every door" and every "principal entrance" that is required to serve as an "exit" are to be considered a part of "the exit access." The key words here are "principal entrance" and "serve as a principal exit."

Part two is called the exit.

3.3.62 Exit. That portion of a means of egress that is separated from all other spaces of a building or structure by walls, halls and other construction to provide a protected way of travel to the "exit discharge."

In simple terms the "exit " is the middle part of the means of egress. This is where you are most likely to find lighted exit signs. It will wind down hallways, down stairways, through working areas, until you reach the exit discharge. (Note:

The means of egress will be well documented and diagramed for all employees to see.)

The third part of the means of egress is the exit discharge.

3.3.64 Exit Discharge. That portion of a means of egress between the termination of the exit and a public way.

The exit discharge is normally the last “interior” door in a means of egress. It leads out of the building and to the public way.

The public way is the first “exterior” part of the means of egress.

3.3.175 Public Way. An exterior street, alley, or other similar route from the exit discharge to the designated assembly area.

The public way and the assembly area are the final two “exterior parts” of the means of egress. The public way is a route to the assembly area for the people leaving the building. The assembly area is a designated area at a safe distance from the building where people are asked to wait until the emergency has ended.

Changes In Life Safety Laws For SCIF & Means Of Egress Doors

Speech Given By: Harry O’Haver, President, Industrial Security Locking Systems, LLC
To the ISAC Conference April 5, 2011

First published in the 2003 version of NFPA101, new life safety laws covering doors with two or more locks on the same door were introduced.

This law reads as follows: **Paragraph 7.2.1.5.9 “The releasing mechanism shall open the door with not more than one releasing operation”**. This means that if you have a combination lock and a leverset on the same door it constitutes a violation of life safety laws, unless you use a “releasing mechanism” that opens both locks with “one motion” from the egress (exit) side.

This new law is currently being enforced by county fire marshalls, accreditation teams, corporate security officers, and other officials vested with the authority to certify both new and existing space. To date, awareness of these new laws has been gradual both among the “certifiers” and the planners of space.

On the topic of enforcement, I have had many Security Directors, Facilities Directors, and even the occasional Life Safety Director say to me, “We just had the Fire Marshall finish his inspection of our “supposedly” illegal locks and he gave us a clean bill of health.” My answer is: “If I were you, I would rush out and buy a lottery ticket.” Times are changing. The training of Fire Marshals Nationwide is accelerating. The laws for Means of Egress and Single Release Motion are prominent in this program. Perhaps even more important is the fact that many if not most architects, specifiers, customers and fire marshals are presently requiring that these codes are observed in order to have new construction and even space modifications certified.

NFPA 101 has been the “Bible” of Life Safety codes and regulations for as long as I can remember – and that’s a very long time.

As long as I have been an industrial locksmith I have tried to follow the rules and laws set out by NFPA 101 as they applied to what locks were allowed, what I had to do if I did use two locks on a door, rules on chains, padlocks, etc.

Over the years many of these rules have changed-always stricter-never more lenient. Whenever I tend to grumble about these changes, I am reminded of a Life Safety saying I heard somewhere.

Life Safety Question: What’s more important that getting out?

Answer: “NOTHING.”

There are two paragraphs in NFPA 101 that I consider, as an industrial locksmith, to be of maximum importance. If you will look at the blackboard behind me, you will see both of them.

7.2.1.5.9.2 The releasing mechanism “shall open the door with not more than one releasing operation.”

7.2.1.5.9 A latch or other fastening device on a door shall be provided with a releasing device that has an “obvious method of operation” and that is “readily operated” under all lighting conditions.

Of the two I consider the first paragraph to be the most important.

Many of us remember the Coconut Grove Night Club fire in Boston in 1942 in which 492 people died. Many people think this tragedy caused the formation of the National Fire Protection Association (NFPA). Not true. The association was first formed in 1913 and has been the leader in fire protection ever since. All the tragedies, including Coconut Grove, could have been prevented if those responsible for life safety had only followed the NFPA laws.

There isn’t anyone in this room that is going to use padlocks and chains to meet security requirements, however, these paragraphs on the blackboard are really trying to help you meet security requirements without endangering lives.

What’s New #1 – Which doors must comply with NFPA 101 Codes regarding Means of Egress?

The “Means of Egress” which I like to call “The Road To Life,” has three parts. There has never been a question about which doors must comply with the middle part, called “the exit,” or the last part, called the “exit discharge.” The answer is all “identified” doors must comply.

The question remaining is what about the “exit access?” the first part of the Means of Egress says:

7.2.1.2 Every door and every principal entrance that is required to serve as an exit are to be considered as part of the exit access.

There aren't any exceptions to this. In simple terms, it means that the door from any room where people are or might be at the time of an emergency is classified as a part of the exit access. It can be a marked exit door from a room housing 50 or more people, an office or even a room with no regular occupants that is used intermittently by several different people (e.g. communications room, copier room, lunchroom.)

It is commonly thought that an office or a communications room is not part of the Means of Egress because they seldom have a lighted emergency exit sign and sometimes aren't occupied on a regular basis. **This couldn't be farther from the truth.** NFPA 101 states: "every door" and every "principal entrance" that is required to serve as an "exit" are to be considered a part of "the exit access." The key words here are "principal entrance" and "serve as a principal exit."

Question: Can an "in swinging" door be a part of the means of egress?

The answer is yes. If the room with the in swinging door has 49 or less occupants, then it is allowed to remain "in swinging."

The NFPA 101 Code States

7.2.1.5.9.2 The releasing mechanism "shall open the door with not more than one releasing operation."

This means that:

- 1) You cannot have two locks on a means of egress door unless they can be opened from the egress side with one motion.
- 2) **You cannot have a combination lock and a leverset on a means of egress door,** (whether or not the combination lock is normally open) unless you use a lock that can be operated from the egress (exit) side with one mechanical motion.

NOTE: This represents a major shift from the "old philosophy" that combination locks are always considered to be unlocked when a room is occupied, or when the "safety pin" on the combination lock is used.

- 3) The same rules apply to a deadbolt and a leverset on a means of egress door.
- 4) In addition to the two releasing motions prohibition, any door that has two locks either inside or outside of the means of egress must have "locks that have an obvious method of operation and that are readily operated under all lighting conditions." As an example, a CDX-10 combination lock clearly does not have an obvious method of operation from the egress side regardless of lighting conditions.

7.2.1.5.9 A latch or other fastening device on a door shall be provided with a releasing device that has an "obvious method of operation" and that is "readily operated" under all lighting conditions.

Last but not least are the specifications for open storage of classified information. This requirement applies primarily to SCIF's.

Simply stated, any lock used on a SCIF door must not only comply with the NFPA 101 codes for Single Motion Egress but also with the DOD (or customer) rules requiring those locks to be deadbolts not dead latches.

NOTE: By “open storage” FF-L-2740A and FF-L-2890A means any “unprotected” classified information in open view. This could include classified information on an office desk, information on a white board in a meeting room, or an office, or any similar situation where the “wrong people” might view classified data.

Let's spend the rest of our time answering questions.

Harry O'Haver is President of Industrial Security Locking Systems, LLC, a master locksmith and is considered to be an expert on laws and regulations such as NFPA01, ADA, DoD FF-L-2740A, etc.

Life Safety Laws: A Major Change



Life safety laws are established by the National Fire Protection Association (NFPA) and updated every three years in the *NFPA101 Life Safety Code* publication. The most recent update is 2012.

First published in the 2003 version of *NFPA101*, new life safety laws covering doors in the “means of egress” with two or more locks on the same door were introduced. **This law reads as follows: “Paragraph 7.2.1.5.10.2 The releasing mechanism shall open the door with not more than one releasing operation”.** This means that if you have a combination lock and a leverset or a cipher lock on the same door it constitutes a violation of life safety laws, unless you use a “releasing mechanism” that opens both locks with “one motion” from the egress (exit) side.

The major emphasis so far has been on new construction especially SCIF's. Existing doors with two or more locks have largely been put on the back burner (grandfathered). That appears to be changing. Since the new laws apply to all doors in the “means of egress”, not just SCIF's, many planners, architects and certifiers are beginning to look at bringing existing doors up to the new life safety standards.

NFPA101 emphasizes the new law with another requirement: **7.2.1.5.10 A latch or other fastening device on a door shall be provided with a releasing device that has an “obvious method of operation” and that is “readily operated” under all lighting conditions.**

There is currently only one lock that satisfies this new law. It combines, mechanically, both a combination lock and a lever lock with a single motion exit handle from the egress side.

The Lockmasters LKM7000 series single motion egress deadbolt not only meets the new life safety laws but also meets the requirements of Department of Defense Specifications FF-L-2740A and FF-L-2890 which calls for all SCIF doors to be deadbolts not deadlatches.

The LKM7000 series is available with a Kaba Mas X-10, or with both a Kaba Mas X-10 and a key override module. The LKM7000 series deadbolt has also recently been redesigned and recertified by Lockmasters to a 90 minute UL burn rating. These deadbolts are suitable for new installations or existing doors.

Installation of the LKM/X10 deadbolt requires the installer to be certified by Kaba Mas on the X-10 combination lock. Our company has additionally had all of our locksmiths trained and certified by Lockmasters in the installation of the LKM7000 series deadbolts.



For additional product information and pricing contact us.

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Grandfathering Old SCIF's Will Not Last Forever

Converting Existing SCIF's To Updated ICD705 Tech Specs, GSA FF-L-2890B and NFPA101 Life Safety Laws

There are probably ten times the number of old SCIF's that don't meet the new requirements than there are newer SCIF's that do. As long as the older SCIF's are covered by grandfathering exceptions to the new requirements, you should not have any major new planning and budgeting to do for converting your old SCIF. However, the current grandfathering does not cover spaces that are having at least one third of their perimeter changed or by spaces that have been deaccredited and are looking for reaccreditation. The accrediting officer (AO) can also dictate when a SCIF

upgrade is required. Perhaps more important is the certainty that grandfathering older SCIF's will not last forever and it is something that you should be planning and budgeting for now.

This interpretation of the current grandfathering exception does not extend to the NFPA101 Life Safety Laws which require single motion mechanical egress on any door in the "means of egress". This means that any door in the means of egress, whether it be access doors, egress doors or exit doors that have two or more locks must be converted to meet the new laws.

You will have to consider the overall changes to SCIF walls, ceilings, floors, electrical and electronic security systems when you make your upgrade. Information on this is available in another tutorial in this series. We are going to treat the problem of SCIF doors specifically in this tutorial.

The most recently updated publication of ICD705 Tech Specs contains a number of significant modifications in requirements for SCIF doors and locks. One of the more significant changes deals with field STC ratings for acoustical doors and in fact, the construction of the doors themselves. Prior to the new requirements of ICD705 you could use wooden doors if they had a STC rating of 45 or above. Since the newest changes to ICD 705 Tech Specs became effective, only out-swinging metal SCIF doors are permitted.

This has also resulted in a different approach to sealing the primary sound gap between the four edges of the door, frame and threshold. In the old days using a wooden door you could install a sound resistant seal on both jambs and the header with an automatic door sound seal at the threshold. With the new regulations, it has become necessary to choose a metal door assembly that not only meets all of the requirements of ICD705 but also has an integral door, frame, sound seals and threshold as a package.

An example of such doors are those made by door manufacturers such as Overly Door Company, which markets metal acoustical doors that meet the general standards described so far. Their doors use both magnetic and compression seals that will stand up to the new field STC requirements as well as the requirements of ASTM Designations E90-09 and E413-10, as well as other pertinent standards, which are the approved test methods for measuring airborne sound attenuation.

If you have not yet met the life safety requirements of NFPA101 for doors in the means of egress, this will have to be part of an immediate upgrade plan. This means that you will need to replace the current locks on your SCIF doors, or, in fact, on any door, in the means of egress that has two locks with a single motion mechanical egress device. This type of lock makes it possible to unlock all of the locks on a door with one mechanical motion. Currently the only locks that are available in the marketplace that meet this requirement and are GSA approved are the Sargent and Greenleaf S&G 2890B single motion mechanical egress locks. These locks are not only GSA approved but also meet both the NFPA101 Life Safety Laws as well as UL rating requirements in both an exit bar and a handle version.

It is also important to be sure that all of the parts of a SCIF door package fit together into a cohesive operating system. For example, it is a wise idea to use a metal acoustical door assembly that supplies magnetic seals or compression seals depending the type of GSA approved SCIF lock that you choose. This is not only important because it gives you a better door operation but also meets the requirements for security and field STC ratings.

One more suggestion is to use installers for these locks who can give you evidence that they are factory trained and certified on all of the components of the SCIF door. This includes not only the SCIF door itself but also GSA approved life safety locks and the combination lock that is mounted on the lock itself. Difficulties with both the immediate installation as well as the long-term performance of the SCIF door and locks, is dependent more on the quality of the installation than it is on the materials themselves. It is very tempting, from a cost stand point, to select the installation company

on the basis of lowest bid rather than demonstrated qualifications. In most states there are laws that require licensed locksmiths to perform lock installation, repair and servicing. Not only is it a good idea to follow the law, where required, but the additional benefit of using installers who are trained and licensed locksmiths who have experience in installing a broad variety of locking systems. Our advice is to consider the long-term costs in your selection as well as the immediate cost including indirect costs such as staff required to deal with frequent periods of non-operation while repairs are being scheduled and completed. It has also been our experience that if you use one contractor to do the entire door from beginning to end, you will wind up with a more satisfactory situation.

This tutorial was written by Harry O'Haver, President, Industrial Security Locking Systems, LLC. Mr. O'Haver is recognized as an expert in the field of acoustical doors, high security locks and government requirements for SCIF's including ICD705 Tech Specs, NFPA101, ADA, etc. Mr. O'Haver is a master locksmith as well as a former two-term Chairman of the Chesapeake Chapter of the American Society for Industrial Security.

Also contributing to this tutorial is Mark Jones. He has been involved in the secure space field since 2000. He is a subject matter expert regarding UL681 alarms and UL2050 monitoring. Mr. Jones helped develop and teach the first non-classified SCIF construction management class through Frederick Community College in Maryland. He worked with the Maryland Department of Economic Development to start the SCIF construction tax credit program. He currently consults on SCIF construction projects nationally and is involved with turnkey delivery of SCIF space in the mid-Atlantic region.

Both Mr. O'Haver and Mr. Jones are founding members of the SCIF Technical Advisory Group (STAG) which is a consortium of companies that work and consult together on both new SCIF's and old SCIF's that require conversion.