Complying with the New CUI Paper Destruction Mandate While Meeting Federal Sustainability Goals

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As of late last year, the new ISOO CUI directive was implemented, affecting all executive branch agencies and mandating new specific requirements for the destruction of information at end-of-life.

NATIONAL ARCHIVES | CONTROLLED UNCLASSIFIED INFORMATION

Executive Order 13556 "Controlled Unclassified Information" (the Order) establishes a program for managing CUI across the executive branch and designates the National Archives and Records Administration (NARA) as Executive Agent to implement the Order and oversee agency actions to ensure compliance. The Archivist of the United States delegated these responsibilities to the Information Security Oversight Office (ISOO). Under the directive, all Controlled Unclassified Information (CUI) must be destroyed to NIST 800-88 specifications. The specifications for paper are a 1mmx5mm final particle size, the same as required by the NSA for classified and top-secret information.

All unclassified information throughout the executive branch requiring any safeguarding or dissemination control is characterized as CUI and includes nearly all government agencies. Further, unclassified data such as For Official Use Only (FOUO), Sensitive But Unclassified (SBU), Personally Identifiable Information (PII), as well as information relating to critical infrastructure, defense, export control, financial, immigration, intelligence, international agreements, law enforcement, legal, natural and cultural resources, NATO, nuclear, patent, privacy, procurement and acquisition, proprietary business information, provisional, statistical, tax, and transportation all fall under this mandate.

The mandate was passed to establish policy for agencies on designating, safeguarding, disseminating, marking, decontrolling, and disposing of CUI. The rule affects federal executive branch agencies that handle CUI and all organizations that handle, possess, use, share, or receive CUI – or which operate, use, or have access to federal information and information systems on behalf of an agency.

Before the mandate, end-of-life specifications were handled on an agency by agency basis, with varying policies and requirements that lacked a universal specification. These different specific policies led to inconsistently destroyed CUI data, leaving potential risks and threats as technology and data recovery methods continued to progress and evolve.

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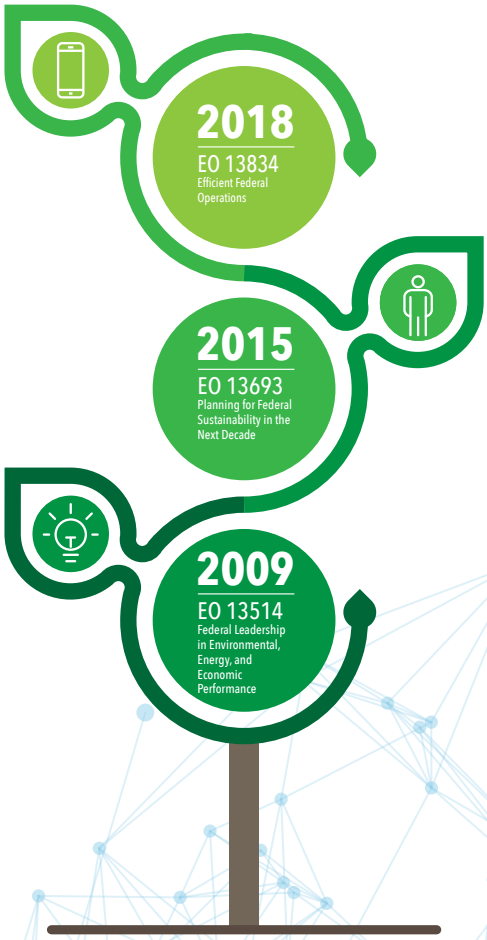
As agencies across the executive branch move forward to comply and update their paper destruction machines, the NSA Evaluated Products List (EPL) is a good point of reference as to what is CUI compliant. It is important to note any machine for paper destruction that is on the NSA EPL for classified and top secret data will be CUI compliant as well, meeting the newly dictated 1mmx5mm final particle size.

Final particle sizes are not the only reason that executive branch agencies will be updating their machines, as every year both individual agency and federal sustainability targets loom closer.

The History of Federal Sustainability Targets and Goals



Over the last decade, executive orders passed through the presidential administrations began to set targets for various green targets, including sustainability, emissions reduction, renewable energy, and more. Many of these targets were outlined in 2009 through Executive Order (EO) 13514, which was passed 5 October 2009. These targets were further updated with more specific goals with EO 13693, Planning for Federal Sustainability in the Next Decade, which was passed 19 March 2015 and was an evolution of EO 13514. EO 13693 aimed to maintain federal leadership in sustainability and greenhouse gas emission reductions and added multiple goals for federal agencies to follow, including promoting building energy conservation, efficiency, and management; improving data center energy efficiency; and ensuring all agency buildings hit 25% clean, renewable, energy by 2025.

On 17 May 2018, the Trump administration passed EO 13834 Efficient Federal Operations, which revoked the targets of the previous executive orders with a simplified and broader statement aiming for more sustainable, renewable energies and practices across federal agencies without numeric targets or dates. On 30 April 2019, the Council on Environmental Quality, Office of Federal Sustainability released Implementing Instructions for Executive Order 13834 Efficient Federal Operations. This document provides instructions to Federal agencies regarding the implementation of EO 13834 including agency planning, reporting requirements, and accountability, but still does not set specific targets and goals. With the absence of targets, many agencies continue to work towards the goals that they have been working towards for the last decade, with the understanding and assumption that numeric targets, likely to be equally if not more stringent than the 2009 directive, will be back in the future.

Federal agencies across all departments have adopted these goals and, in some cases, gone even further by adding their own internal goals and guidelines. To meet these targets of reducing waste and having zero landfill from paper destruction, while still being CUI compliant, some agencies have adopted the use of Security Engineered Machinery (SEM) green destruction solutions including oil free shredders and briquetting systems that meet or exceed the 1mmx5mm final particle size. Others have opted to modernize older equipment, which helps meet the end-of-life requirements dictated by the new CUI mandate and saves energy by being a faster and more efficient system.

DIN level P-7 particle (1mm x 5mm) is the requirement for all classified and CUI paper

SEM also designs green destruction facilities and end-of-life destruction machines with Leadership in Energy and Environmental Design (LEED) certifications in mind and possesses top secret security clearance to work with all agencies within the government to meet their needs. LEED is a point-based system where existing building and new construction and renovation projects earn LEED points for satisfying specific green building criteria. This was established as a result of the 2006 GSA evaluation, Sustainable Building Rating Systems Summary, which concluded that LEED remained the most credible rating system available to meet the GSA's needs.

There are currently seven LEED credit categories and projects must satisfy a number of unique prerequisites in order to earn points. As of 2013, the GSA increased its minimum requirement for new construction and substantial renovation of federally owned facilities to acquire a LEED Gold rating. SEM green destruction systems and green product lines meet those prerequisites in several categories to earn valuable points toward certification levels. The more points earned, the higher the certification level a project will receive.

Customizable Solutions to Meet All Goals

Due to the nature of SEM's work with top secret and classified data and the requirement for confidentiality from SEM's clients, the case studies below will be identified only as agencies in an effort to avoid any security risk or identification of any of the processes these groups use.

Federal Civilian Intelligence Agency

To meet internal sustainability targets, this federal civilian intelligence agency implemented a blanket purchase agreement (BPA) with SEM after researching and discovering that a SEM shredder would be the best fit. The chosen unit, the SEM Model 1201CC, is the only NSA listed, and therefore CUI compliant, paper shredder that was tested and listed by the NSA without the use of any oil. These units were constructed and delivered to multiple facilities within the federal civilian intelligence agency to aid them in their goal to meet sustainability targets that had been set internally while still being compliant for the destruction of classified and CUI material.

The Intelligence Community: A Two Location Case Study

In recent years, an increasing number of government agencies have adopted green central destruction systems. One example is within the intelligence community, where two high capacity, dual stage, centralized green destruction facilities with briquettors were constructed in two separate locations. These robust systems were set up to allow bulk destruction and built and designed in conjunction with LEED certifications to hit the targeted credit level. This project was a turnkey installation, meaning that SEM was in charge of the planning, initiating, set up, training, and upkeep of the entire project – start to finish.

Centralized military high security green destruction facility utilizes two disintegrators with briquettors

Location One

For these two green destruction locations, the client needed systems that would be capable of destroying over 25 tons of data per month that resided on paper, CDs, and hard drives in a secret compartmented information facility (SCIF) centralized location.

To meet this goal, the first green destruction facility was designed around an SEM Model 3000 disintegrator, Model 2238 disintegrator, and Model 0304 hard drive shredder. The two disintegrators meet the ISOO CUI directive of a 1mmx5mm final particle size and are on the NSA/CSS Evaluated Products Lists for Paper Disintegrators (formerly NSA/CSS EPL 02-02), Optical Destruction Devices (formerly NSA/CSS EPL 04-02), and Punched Tape Disintegrators (formerly NSA/CSS EPL 04-01). Of note is the fact that

The 2018 NSA EPL mandates that classified DVDs and BDs be destroyed to a particle size of less than 2mm

the system was NSA compliant for the destruction of classified CDs and DVDs at the time of purchase and installation; however, with the update of the NSA EPL for Optical Destruction Devices that was released in November of 2018, the system is now NSA compliant for CDs only, as the DVD particle size specification was reduced to 2mm. At the same time, the new Blu-ray Disc (BD) final particle size specification was added to the EPL, also at a 2mm particle size. Prior to 2018, BDs could only be destroyed through incineration. This change excluded all paper disintegrators from the NSA EPL for DVD and BD destruction. In order to allow agencies time to comply with the new specification, the NSA is allowing a three-year grace period for the intelligence community and a six-year grace period for the DoD.

The 0304 hard drive shredder was built with blades that would reduce the hard drives to a one-inch final particle size and meets the NSA standard for top secret and classified data on hard drives, which specifies a two-step process requiring that drives be degaussed and then physically destroyed.

The Model 3000 disintegrator system was built and installed with a duo briquettor system attached. A typical SEM briquetting system is a highly engineered project where SEM reviews existing destruction volumes and the environment where the system is installed in order to optimize both the disintegrator and briquetting equipment to meet the client's needs. SEM's standard systems include pneumatic material evacuation and highly efficiency MERV rated filtration systems integrated into the turnkey destruction system.

This duo briquettor system allows for the shredder material from the Model 3000 disintegrator to be condensed into small paper briquettes, ultimately reducing the size of the waste by over 90%. Not only is this beneficial because of the reduction of waste, but it ultimately is cost saving for transporting, storing, and recycling the briquettes for the client.

The entire system was then set up with an integrated pre-shred and post-shred metal detection system to prevent binder clips and all stray hardened metals from reaching the destruction system and briquettor, which helps prevent system damage, increases blade wear, and ensures clean, recyclable material. An STC rated metal sound enclosure was also built around the disintegrator itself to mitigate the sound of the shredding material.

SEM Model 3000
dual stage disintegrator

To complete the project, a master control panel was installed to maintain all sequential individual system component functionality including safety locks to ensure operator safety. The master control panel allows for auto start-up and shutdown of all system components in an assigned timed sequence.

Location Two

The second location for the intelligence community utilized a similar set up but included different machines. A dual stage SEM Model 1436 disintegrator, which meets the new ISOO CUI directive of a 1mmx5mm final particle size, was used instead of the Model 3000 and Model 2238 disintegrator combo of the first location. A trio briquettor was also used instead of a duo briquettor. These choices were made due to the volume consisting of mostly bulk paper and space limitations, so a machine that was more efficient with a smaller footprint was the selected solution. The construction of this project was initiated in a separate building about a year after the completion of the first green destruction facility once the client saw the benefits and results.

SEM disintegrators can accept entire banker's boxes

When construction of each of the two facilities was completed, SEM's role continued with the client. Training was offered to those who would be running the machine upon its initiation, and periodic training classes are regularly provided on best practices to keep employees up to date. Preventative maintenance is also performed where SEM cleared technicians will visit the site on a scheduled basis to ensure that everything is running efficiently and correctly, catching and correcting any potential user or machine-based issues before problems arise.

SEM also aids in each step of the recycling process including providing the carts that hold the briquettes and planning at site pick-up to the actual recycling. Each month a report is also provided detailing the weight that was recycled, consistently totaling the 25 tons that the client initially expressed needed to be destroyed on a monthly basis.

A Federal Civilian Agency Case Study

A federal civilian agency implemented a centralized green destructions system with a disintegrator and briquettor into one of their central, SCIF compliant locations. This system was custom engineered by SEM to meet the requirements of the agency while also accommodating the architectural challenges that came with implementing the system in an unconventionally shaped, historical building. Despite this challenge, SEM constructed a system that would meet the needs of the client to destroy large amounts of paper and CDs. In fact, the destruction system would need to handle an even larger than normal work load as the client wanted this one location to be the main shredding area for the entire department, sending in paper and media from other rooms and buildings from across the entire agency.

Briquetting reduces waste by over 90% and allows the shredded material to be recycled

The project was another turnkey installation, with SEM leading every step of the process and developing a detailed installation project plan. A SEM Model 23/5 disintegrator with a conveyor was installed with a 3/32" screen for the final particle size, which meets the requirement set by the new ISOO CUI directive. The briquettor system was attached to the disintegrator and spread out with additional tubing due to the size and shape of the room. The room also required additional ceiling duct work due to the limited space on the ground.

Additionally, the smaller size of the room led to the inclusion of a large custom air filtration system that would aid in removing the dust and particles from the air and machines, creating a safer environment for the machine operators. In total, 24 filtration tubes were built into the room through which the air runs before it is circulated back into the room through secondary MERV filters as clean air.

A sound enclosure was installed around the Model 23/5 disintegrator to reduce audio levels of the crushing and shredding. Safety switches were also installed on the conveyor and mounted wall panels, allowing for easy shutdown in the event of an error or malfunction. Like the two-location case study, this green system came equipped with a pre-shred and post-shred metal detection system to prevent damage from metal passing through. Additionally, a feed rate meter with relay working off the amperage of the motor was implemented, which automatically turns off the conveyor and stops feeding if the machine approaches 80% of the power the motor can draw.

Like the projects completed for the intelligence community client, SEM continued to work with this federal agency even after the project construction was completed. Not only does SEM pick up and deliver the briquettes and shredded material to recyclers to meet zero landfill initiatives, but also collects the material that is yet to be shredded from the other buildings and rooms within the department to deliver to this central location to be shredded. But it doesn't stop there, as those same SEM employees also shred the material for the client.

A Time of Change

This new ISOO directive will redefine what it means to keep CUI data, and ultimately the American people, safe. While executive branches and agencies continue to move towards federally mandated and private sustainability goals, as well as update existing equipment to meet the new CUI standards, it is important to know that systems exist that can assist in meeting both targets in a cost-effective manner with the same end-of-life system. Whether that means updating a single paper shredder to one that is oil free and more energy efficient, or installing a green destruction system that meets internal goals, there are customizable options that can meet the CUI directive requirements and sustainability goals all at once.

The ISOO CUI mandate covers nearly all government agencies

Security Engineered Machinery Co., Inc.
5 Walkup Drive | Westboro, MA 01581
800.225.9293 | 508.366.1488
contact@semshred.com
www.semshred.com