

NSA/CSS Requirements for Solid State Disintegrators

1 (U) Introduction

(U) Solid State Disintegrator Device must pass an evaluation by meeting requirements set by the NSA/CSS for the destruction of classified Solid State Storage Devices. NSA/CSS will primarily evaluate the device's operational ability to make it very difficult for classified information to be extracted. Secondarily the operational, administrative, power, safety, environmental and mechanical areas will be evaluated to minimize the potential risk.

(U) Once the evaluation is successful the NSA/CSS will include the device in the next release of the "NSA/CSS Evaluated Products List for Solid State Disintegrators". The Evaluated Products List (EPL) is meant to serve as guidance, inclusion in this document is not an endorsement by the NSA/CSS or the U.S. Government. All listed products sanitize TS/SCI and below.

2 (U) Purpose and Use

(U) This document should be used by a vendor of Solid State Disintegrator Device as a guide for the NSA/CSS evaluation. In order to be included in the NSA/CSS Evaluated Product List for Solid State Disintegrations a vendor must satisfy all appropriate requirements in this document. The Solid State Destruction Device will be evaluated against a random assortment of solid state devices it claims to destroy.

3 (U) Descriptions

- **(U) Evaluator:** The destruction engineer performing the evaluation.
- **(U) Optical Storage Device:** Optical storage devices store and read data using light, often recording information on what's called an optical disk. The most common types of optical storage devices are drives that read and write CDs, DVDs and Blu-ray discs.
- **(U) Operator:** The person using the solid state disintegrator to perform the destruction of storage devices.
- **(U) Solid State Storage Device:** Solid-state storage (SSS) is a type of computer storage media that stores data electronically and has no moving parts. Solid state storage is made from silicon microchips.

Because there are no moving parts, SSDs require less power and produce far less heat than spinning hard disk drives or magnetic tape. In addition to providing faster and more consistent input/output (I/O) times, solid-state storage media offers the same levels of data integrity and endurance as other electronic devices. Solid-state storage can be found generally in three form factors: solid-state drives (SSD), solid-state cards (SSC) and solid-state modules (SSM)

- **(U) Solid State Disintegrator:** Solid State Disintegrator is defined as a machine that will reduce a Solid State Storage into small particles. Not all devices can securely disintegrate all Solid State Storage Devices.

4 (U) Operation Requirements

4.1 (U) Destruction

(U) The solid state disintegrator must reduce a solid state storage device to a maximum edge size of 2 millimeter or less.

4.2 (U) Operational Time

(U) The solid state disintegrator must be able to operate continuously for one hour while destroying at least 100 miscellaneous solid state storage devices. The solid state disintegrator may jam up to three times per 100 units destroyed however a jam must be cleared within 5 minutes.

4.3 (U) Solid state storage device

(U) A solid state disintegrator must be able to destroy all or some of these solid state storage devices:

- (U) Blu-ray Disks (BD)
 - (U) Cell phones
 - (U) Tablets
 - (U) USB/Flash/Thumb Drives
 - (U) Solid State Drives inside desktop computers and laptops
 - (U) Circuit Boards
 - (U) SIM Cards, EMV Cards, Credit Cards and other Magnetic Strip Cards
- Optical storage devices include:
- (U) CDs
 - (U) DVDs

(U) In order for a solid state disintegrator to be approved to destroy a solid state storage devices it must be evaluated.

(U) In some cases the solid state storage device may need to be disassembled and only certain components will go through the destruction process (i.e. LCD, batteries, sensors or switches removed).

5 (U) Administrative Requirements

5.1 (U) Labels

(U) The solid state disintegrator must have a label that can be easily viewed and includes:

- (U) Company Name,
- (U) Model,
- (U) Serial Number.

5.2 (U) Feature Claims

(U) The solid state disintegrator vendor must specify the solid state storage devices it will destroy and the requirements it will satisfy. If a solid state storage device is not claimed it will be not be evaluated and will not be approved to destroy that classified solid state storage device. If a requirement is not supported the solid state disintegrator may not be allowed to go through evaluation.

5.3 (U) User/Operator Guide

(U) The solid state disintegrator must have an English version of the user/operator manual. The manual must include the following:

- Accurate description of the solid state disintegrator,
- List of solid state storage devices it will destroy,
- Accurate summary of each feature and function,
- List of specifications (i.e., power consumption, motor size etc.),
- Maintenance procedures:
 - Changing Filters,
 - Remove a jam,
 - Lubrication,
 - Safety procedures.

6 (U) Power Requirements

6.1 (U) Electrical

(U) The solid state disintegrator will be approved for a power source that is evaluated in testing. Every power source for a solid state disintegrator must be individually tested to claim approval.

6.2 (U) On/Off Switch

(U) The solid state disintegrator must have On/Off Switch within easy access of the operator.

6.3 (U) Power Indication

(U) The solid state disintegrator must have a power indication display that can be clearly seen by the operator.

6.4 (U) Ready Indication

(U) If the solid state disintegrator requires a warm up period before operation it must have a ready indication display.

7 (U) Safety and Environmental Requirements

7.1 (U) Emergency Off

(U) The solid state disintegrator must have an emergency stop mechanism within easy reach of an operator. The emergency procedure must be documented.

7.2 (U) Operator Protection

(U) The solid state disintegrator must protect the operator. The operator must not come into contact with any moving parts or projectiles during operation.

7.3 (U) AirFlow

(U) During the process of disintegration the solid state storage device heats up and breaks apart thereby creating toxic particles, dust and gases that could affect the operator.

(U) All the exhausted air must go through a HIPPA Filter. No air should escape through other openings in the destruction system.

7.4 (U) Debris Collection

(U) The internal design of the solid state disintegrator device must deposit the plastic and metal particles to a debris bin. The path from the destruction chamber to the debris bin must be air-tight and at no point should the particle or dust escape from this path external from the system.

7.5 (U) Debris Full

(U) The solid state disintegrator must have a debris full indicator with automatically shut off. This must be a actual measurement of the level of debris in the bin and not based on time or other criteria.

7.6 (U) Noise

(U) Sound levels for the solid state disintegrator must be less than 85 dBA while operation. This level meets both the National Institute for Occupational Safety and Health (NIOSH) and the Occupational Safety and Health Administration (OSHA) standards of less than 85 dBA and less than 90 dBA respectively.

8 (U) Mechanical Requirements

8.1 (U) Fit and Finish

(U) The solid state disintegrator should have a tight fit with no gaps between panels, loose panels, faulty doors, loose windows or sharp edges that could cause safety or operational issues.

(U) The solid state disintegrator should be a production unit that is complete and all features should be operational.

8.2 (U) Vibration

(U) The effects of vibration can be severe. Unchecked vibration can accelerate rates of wear (i.e. reduce bearing life) and damage equipment. Vibrating machinery can create noise, cause safety problems and lead to degradation in plant working conditions.

(U) The solid state disintegrator must not exhibit a vibration measurement of over ? Hz. The measurements will be taken at four random locations around the Solid State Disintegrator Device using a digital vibration meter.

8.3 (U) Heat Generation

(U) A heat signature will be taken using a heat signature camera on each side of the solid state disintegrator. The signature should show no high temperature activity (red areas) on the solid state disintegrator that could be dangerous to the environment or injure an operator.

8.4 (U) Calibration or Maintenance

(U) Any machine will require calibration and maintenance during its lifetime. If the solid state disintegrator requires calibration or maintenance by the operator it must be safe and reasonable easy to accomplished. The following are some specifics:

- (U) Unit Jamming must be cleared within 5 minutes.
- (U) HIPA filter must be change within 3 minutes without using special tools.
- (U) Must be able to reset within 10 minute after a thermo shutdown.